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ABSTRACT

The report discusses issues relating to arms limitation and disarmament. Leaders in U. S. government, professionals from a wide spectrum of disciplines, and other international statesmen participated in the conference in an attempt to define a more enlightened foreign policy. Six major topics were discussed. The first report considered five components of multilateral disarmament mechanisms (information, study, deliberation, negotiation, and follow-up). The second report analyzed present and future capabilities of the International Atomic Energy Agency. The third report considered the Strategic Arms Limitation Talks (SALT) and suggested ways of making the SALT negotiations more effective. The fourth report examined international nonproliferation and plutonium management. Demilitarization of outer space was discussed in the fifth group report, followed by a consideration of weapons limitation in the Middle East in the final report. The format of each group report includes a brief overview of topics considered by the group, background information on American and foreign government policy regarding the issue, a synthesis of group discussion, and suggestions for solutions to issue-related problems. Speeches by the conference chairman, a U.S. Senator from Iowa, and the Director of the U.S. Arms Control and Disarmament Agency are included. (Author/DB)

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ARMS LIMITATION AND DISARMAMENT

SEVENTEENTH

STRATEGY FOR PEACE

CONFERENCE REPORT

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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PREFACE

The Seventeenth Strategy for Peace Conference continued The Stanley Foundation's series of annual meetings dedicated to a re-evaluation of U.S. foreign policy. Eighty-five participants from a wide spectrum of disciplines convened to discuss six timely and important issues within the general theme of "Arms Limitation and Disarmament."

The first Conference to Plan a Strategy for Peace was held, in June 1960, to involve leaders in government and the professions throughout the United States in a search for a more enlightened and forward-looking foreign policy.

The format of this Conference has been an informal off-the-record exchange of ideas and opinions. No time has been spent in presenting or debating prepared papers or positions. No effort has been exerted to achieve consensus where difference of opinion has been evident.

Each group report was prepared by the rapporteur to state the essence of discussions. Reports were reviewed by group participants and finally revised by the rapporteur reflecting participants' comments during the review session. As participants did not review the reports of other groups, the reports do not necessarily reflect the views of all members of the conference.

Government officials taking part in the Conference are in no way committed to any position or findings of the discussion groups.

Views expressed in this report are not necessarily the views of The Stanley Foundation.

This report is distributed in the hope that it will stimulate study, research and education in the field of foreign relations. We urge that references to, or duplication or distribution of, the contents of this report be given proper acknowledgement.

The Stanley Foundation
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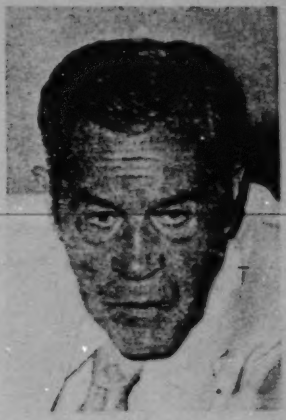
OPENING REMARKS



By

C. MAXWELL STANLEY

CONFERENCE CHAIRMAN

For the seventeenth time we convene a Strategy for Peace Conference, for the fifteenth time here at Airlie House. Each prior conference has dealt with several issues related to a U.S. foreign policy better suited to the management of global problems affecting a viable strategy for peace. This year we focus upon the issue of Arms Limitation and Disarmament. This emphasis is consistent with our historical pattern, arms control and disarmament having been one of the discussion topics at each prior conference. Undoubtedly the major contributions of this series of conferences have occurred in the area of arms control.

Concentration here upon arms limitation and disarmament, however, has more than historical justification. The time to halt and reverse the ever spiralling and widening arms race is long overdue. It is sheer madness to allow it to run on unrestrained, madness whether viewed from the standpoint of economics, security or global cooperation.

Spending $300 billion annually upon the world's military establishments — over $3 trillion since 1960 — makes no economic sense, with so many unfunded domestic and global needs. Military expenditures now rival the aggregate the world community spends for education, and are nearly twice the expenditures on health and dwarf the $15 billion channeled to foreign economic aid and the mere $1 billion to international peacekeeping. Unfortunately, the $300 billion grows due to expanding nuclear arsenals, proliferation of nuclear weapon capability, new weapons and mounting transfers of conventional weapons to developing nations. What moral justification is there for such intense preparation for war which all nations avow they are determined to avoid.

Expansion of the arms race is customarily rationalized as being essential to national security. Indeed there can be no other moral or logical justification. But has the ongoing arms race truly improved the security of the superpowers, the middle powers or the developing nations? I believe that we must seriously question the validity of this assumption.

Do the superpowers gain security from their ongoing frantic efforts to deny each other number one status in strategic nuclear deterrence? Mutual deterrence, credited with maintaining an uneasy peace of terror for two decades, is destined to continue for some time. But are not the multiplying levels of overkill, bigger bombs, more sophisticated delivery systems and far out exotic weapons as likely to destabilize as to strengthen deterrence? Isn't enough enough, particularly given the tacit recognition underlying detente that the nuclear giants dare not loose their nuclear arsenals upon each other?

The continuing strategic arms race, with its massive commitments of money, technology and human resources, expands the opportunities for nuclear crises, if not disaster, due to accident, systems failure, inadvertence or miscalculation. Proliferation of nuclear weapons broadens the strategic race, undermines the bipolar stalemate and multiplies the chances of nuclear crises.

With more and more arms in the hands of more and more nations, the probabilities of controversy escalating into armed conflict are drastically enlarged. The temptation to use military threat and actions is not likely to be generally resisted by governmental leaders faced with actual or perceived challenges or threats from without or the need for diversions from troubles within. Neither the maturity of governments nor the stability of their leaders can be counted upon to act with caution and prudence. Nor can terrorists possessed of materials for A bombs be expected to avoid blackmail and violence.

Such situations become more hazardous when the Soviet Union and the United States are locked into the high-tension relationships of their own arms competition. Moreover the ability of superpower influence to help resolve conflicts among others diminishes as the political influence provided by nuclear weapons fades. The world generally seems to better understand the basic concept underlying detente than do the superpowers, i.e. that the superpowers know they dare not use their strategic nuclear weapons. Hence the credibility of nuclear umbrellas erodes and nations, presumedly protected by them, are encouraged to enlarge their arms.

The deleterious impact of the arms race upon international cooperation is hazardous to the solution of major global problems confronting the world community. Besides the maintenance of peace and security, these problems include: developing peaceful means of resolving controversy, accelerating economic and social development, reforming the world economic order, coping with unfavorable resource/population balances and enhancing human rights. Successful management of these problems calls for the utmost of cooperation among nations, including willingness to accept mutual restrictions upon the use of national sovereignty. Concentration upon arms undermines cooperation. Real or assumed enemies must be identified. Suspicion and antagonisms are generated, often founded upon long-standing fears, prejudices and hatreds. Moreover, possession of arms tends to encourage resort to the threat and use of force and other military approaches to resolve controversy and solve problems.

Because the time to halt and reverse the arms race has come, a change in strategy is needed. Emphasis must be shifted from arms control and limitation to arms reduction and disarmament. Arms control measures of the last two decades have stabilized mutual deterrence and reduced the probability of use of nuclear weapons. All who have helped fashion arms control concepts have contributed to

national security. But times are changing. Threats to peace and security are no longer solely bipolar. Arms control alone is no longer adequate. More weapons are not bringing more security. Arms reduction measures are called for, fashioned as steps to ultimate general and complete disarmament.

While all nations share responsibility and have a stake in arms reduction, the key to breaking the current impasse rests squarely upon the two major nuclear weapon powers, the United States and the Soviet Union. Until they fulfill commitments to accelerate reduction of nuclear weapons as specifically stated in the Nuclear Non-Proliferation Treaty and as inferred in various joint statements, progress will be minimal. Positive action by the superpowers, demonstrating their sincerity to reverse the arms race, could break the log jam. It could also foster a new climate more conducive to negotiating agreements for reduction of conventional as well as nuclear weapons, for limiting nuclear proliferation and for creating of regional weapons free zones.

How are the Soviet Union and the United States to be persuaded to more aggressively pursue arms reduction? What could motivate them to reverse the arms race in keeping with the underlying common understanding of detente, namely that war between these nuclear giants must be avoided? The basic answer, I believe, is enlightened self interest — economic as well as political — supplemented by mounting public opinion from within and without their countries.

One of the functions of this and similar conferences is to help provide such motivation by identifying common self interests and influencing public opinion. The topics for our six discussion groups at this conference have been chosen because they contribute to these ends. Futhermore, early progress in the area of each topic is crucial to halting and reversing the arms race and to arms reduction and disarmament.

MULTILATERAL DISARMAMENT MECHANISMS

While the superpowers hold the key to unlocking the barriers to nuclear arms reduction, the whole world has a stake in the process and must be involved. Effective multilateral disarmament mechanisms are needed to prod the superpowers and to deal with non-proliferation of nuclear weapons and reduction of conventional weapons.

A sense of impasse, futility and pessimism now dominates multilateral disarmament matters both in Geneva and New York. The inadequacies of current mechanisms are evident. Agendas of regular sessions of the General Assembly are too crowded for deliberate consideration of disarmament matters. While the Conference of the Committee on Disarmament (CCD) has produced several arms control treaties it has neither halted nor reversed the arms race. China and France shun the CCD. The current interest in fashioning better

multilateral mechanisms reflects in part a growing dissatisfaction with U. S. and Soviet leadership in disarmament matters.

Many observers advocate an effective forum, involving all nations, for periodic consideration of disarmament matters — a world disarmament conference or special session of the General Assembly as now proposed for 1978 — plus a smaller body to negotiate specific treaties — either a new body or a restructured CCD.

The United States has adamantly opposed both a World Disarmament Conference (WDC) and a restructuring or replacement of CCD. Our discussion group should focus upon the need for improved multilateral mechanisms, the desirable process to obtain them, and the appropriate U.S. policy regarding them.

THE FUTURE OF THE IAEA

Inspection and verification are inevitably called for as a part of arms reduction and disarmament agreements. The International Atomic Energy Agency (IAEA) has, since its founding in 1957, been concerned with safeguards for detecting diversion of nuclear materials for non-peaceful purposes. Upon the adoption of the Non-Proliferation Treaty, the IAEA assumed further responsibility for developing safeguards. The IAEA has discharged these responsibilities well. Its background of experience should prove invaluable as the world community acts to reduce arms and begin the process of disarmament.

Vast expansion of nuclear programs around the world raises questions about the IAEA. Should its role be enlarged beyond detection of diversion? Should it undertake functions of control and regulation? How might the IAEA relate to regional cooperative efforts in nuclear matters including energy and reprocessing centers? What expansion and restructuring is needed for the IAEA of tomorrow? In short, what is the IAEA's future regarding inspection and detection related to arms reduction and disarmament?

The compatibility of the IAEA's other role, the promotion of peaceful uses of atomic energy, also warrants examination. Is there merit in separating these promotional and educational roles from those of inspection and verification? U.S. action separating the regulatory and operational functions of the old Atomic Energy Commission is cited by some as an argument for dividing the IAEA.

Continued strong support of the IAEA by the United States and other advanced nuclear nations is crucial to the future of the IAEA. How is it to be assured?

SALT: NEGOTIATING PROCESS

Continued and intensified negotiation between the United States and the Soviet Union are obviously crucial to arms limitation and disarmament. How may U.S. procedures for these important negotiations be improved? This is the question posed to our discussion group.

Executive versus Congressional relations are one facet of these negotiations deserving attention. How should decisions on what to negotiate be made? Should not Congress have greater input in order to provide balance to Pentagon postures and to facilitate executive accountability?

Is the current degree of secrecy surrounding SALT fully warranted? One byproduct of excessive secrecy is the lessening of the traditional role of the news media in maintaining a better informed and more involved citizenry. A related factor is the handicapping of efforts of NGOs to contribute input on arms limitation matters, an input that could be most valuable.

While proposals to improve SALT negotiation must take into account Soviet reactions, we should not be timid in seeking more effective approaches. Too much is at stake. The process needs to be speeded up and broadened. Continuing advance dialogue on strategic matters — as distinguished from negotiation — might help. How useful are the "hedging" and "bargaining chip" approaches? What greater role should be given to nongovernmental exchanges and contacts?

The need, in short, is a more effective, active, and rapid negotiating process if the two superpowers are to lead the way in arms reduction and disarmament and live up to the commitments and implications of detente. Until there is dramatic change, SALT will remain the lowest common denominator of the world community's efforts to halt and reverse the arms race.

INTERNATIONAL PLUTONIUM MANAGEMENT

Because plutonium is used to manufacture nuclear explosives, growing stocks throughout the world wherever nuclear reactors operate are a mounting threat to peace and security. Diversion of plutonium allows nations to make nuclear weapons or so called peaceful nuclear explosives (PNEs). Theft by terrorists raises a horrifying specter. The threat grows greater every day as more and more reactors are activated.

Six countries now have exploded nuclear bombs or PNEs; eleven others reportedly want to develop such capability and one or two may already have it. The IAEA estimates that the number of reprocessing plants able to convert spent uranium to weapons-strength plutonium will triple to 17 in the next decade. By 1990 reactors in developing

countries alone will be generating annually sufficient plutonium for 3,000 small atomic bombs.

Hence, intelligent and effective plutonium management is crucial to arms reduction and disarmament. Guidelines for U.S. policy are urgent. The United States as an advanced nuclear supplier should be supplying stronger leadership. What should be our nuclear export policy? How can we stimulate adequate cooperation among the several nuclear supplier nations? Should plutonium be used as fuel in the current generation of reactors and if so, how should this use be licensed and controlled? What should be the U.S. posture regarding multinational regional nuclear centers? Answers are needed to these and related questions.

National guidelines and policies, however, are only the beginning because plutonium management is an international problem. Pending U.S. decisions will have vital and direct impact on international management of plutonium. The supplier nations that must be involved have held secret meetings in London over the last year and a half, but little is known of the outcome of their discussions.

Participation of developing nations is equally important and often overlooked. They perceive nuclear energy as essential to their development both for the generation of electrical energy and for "plowshare" type peaceful uses. Unless they are intimately involved in the dialogue shaping policies for plutonium management, they cannot be expected to cooperate with the nuclear supplier nations.

THE DE-MILITARIZATION OF OUTER SPACE

Contrary to the common assumption within the United States, the 1967 Outer Space Treaty, ratified by some 70 nations, including the United States and the Soviet Union, does not prevent military uses of outer space. Although it prohibits placing nuclear weapons in orbit, both the superpowers are using outer space militarily and are perfecting additional hardware for this purpose.

Outer space remains available for transient ICBMs carrying nuclear weapons. Satellites are used as early warning systems to detect missile launches, as controls to improve missile accuracy, for surveillance of ground troop and missile deployments, and for gathering other intelligence. Reportedly both superpowers are rushing development of space hardware capable of destroying satellites and incoming missiles, while in outer space. Space shuttles, having military potential, are scheduled to be operational soon.

Obviously consideration of de-militarization of outer space is timely before this final frontier is irrevocably committed to military purposes. The current status and the trends of military usage, as well as the provisions of the 1967 Treaty, would seem proper points of departure. Projection into the future should reveal the need for further treaty

provisions to halt the arms race in outer space. Consideration of the appropriate role of the United Nations and the superpowers could aid the formulation of further U.S. policy regarding outer space.

One caution seems appropriate. Satellite systems for detection of missile launches and gathering intelligence have a peaceful purpose too. They now help stabilize nuclear deterrence and they can help verify performance of future arms limitation and disarmament agreements. This factor deserves careful consideration in formulation of outer space policy.

WEAPONS LIMITATION IN THE MIDDLE EAST

For a generation the Middle East has been a trouble spot embroiled in repeated wars and violence interspersed with uneasy armed truces. Direct confrontation between the superpowers engaged in supplying arms and military assistance to the countries of the area has often seemed imminent. Hopefully a tenuous settlement may evolve in the foreseeable future, whether through a step-by-step approach, a la Kissinger, a multinational conference or some other procedure.

But will such a settlement bring stability and peace to this troubled area or merely provide another uneasy interlude between wars? Many observers believe the answer depends in part upon what arms control and arms limitation agreements accompany or follow the settlement. Can prolonged peace and security prevail with current programs of expanding armaments? Massive transfers of conventional armaments to the countries of the Middle East and nearby Persian Gulf area continue. Israel is presumed to have nuclear weapons and other countries are undoubtedly moving toward nuclear weapon capability. Can a tinder-box be made safe by injecting the tools of war, however balanced?

Hence the importance of examining the potential for area arms limitation control policies and agreements, even though it be a difficult and complex assignment. Dare reliance be placed on military balance? If not, what conventional and nuclear arms agreements are desirable? Possible? How could they be negotiated? Should they be a part of an overall settlement? What roles would be appropriate for the United States, the Soviet Union, and the United Nations in negotiating, implementing and guaranteeing agreements? Answers to such questions could be useful in cooling this hot spot.

CONCLUSION

In closing, I voice a mounting frustration, and indeed a growing anger, that my government continues to fuel the mad momentum of the arms race. We are still over-reacting to the threat of communism. We respond too quickly to the alarms sounded by the Pentagon and echoed by other vested interests of the military-industrial complex. We are

swept along by politically inspired emotional appeals that we must be number one. We allow those who dare to challenge our military policies to be branded as fuzzy-minded or unpatriotic.

Such attitudes, matched by comparable ones in the Soviet Union, maintain the pressures that keep the arms race going. Step by step, with a suspicious eye on each other, these two nuclear giants strive to match, if not outdo, each others weaponry. And where they lead others seek to follow with conventional, if not nuclear, weapons.

I want the United States to be number one — number one in facing up to the realities of the nuclear age and the growing interdependence of both the nations of the world and the global problems confronting them. Leadership in such a competition must start with both recognition and acceptance of the concept that the use of military power can no longer be considered acceptable as the ultimate instrument of the foreign policies of major powers. Nor can military power be considered a viable security device for lesser powers. Hence, if we want to be number one in the race of reality, we must focus upon the development of alternate methods to assure international peace and security. This calls for compulsory means to peacefully resolve controversies between nations and their nationals plus global institutions and mechanisms to protect nations from intervention and to assure nonviolent expression of their rights of self-determination.

Arms reduction now, and later some form of general and complete disarmament, have a chicken and egg relation to U.S. policy and programs facing up to the realities of the nuclear age and growing interdependence. Disarmament progress must parallel the development of alternate systems assuring peace and security: the one stimulating the other. Believing, however, that checking and reversing the arms race is the place to start, I trust that our deliberations here will contribute to this end.

Finally, I urge all who share my frustrations and anger to intensify your efforts to convince opinion-shapers and decision-makers that a major shift in U.S. foreign policy is urgently needed. Achievement of arms reduction and disarmament, and associated alternatives to assure peace and security, must become working precepts rather than a lofty aspiration for the future. Only then will our nation face realities and respond fully to our heritage. Only then have we a chance to avoid bequeathing to our children and grandchildren a hazardous over-armed war-oriented world. Only then will we devise an effective strategy for peace.

MULTILATERAL DISARMAMENT MECHANISMS

This group met to consider the adequacy of multilateral disarmament mechanisms and to make suggestions for their improvement. Several members pointed out that while the existing machinery has imperfections, it is not clear that different mecharisms would have ensured greater progress in the arms control field. Nevertheless, it was generally considered important to do everything possible to improve the machinery. There was general concern that the negotiating process is not able to cope with the rapid pace of the arms race, and the mere tinkering with the machinery cannot close the gap.

Five components of the disarmament mechanism were identified: (1) information; (2) study; (3) deliberation; (4) negotiation; and (5) follow-up. Our examination focused on items (3) and (4).

MECHANISMS AND OBJECTIVES

Some members felt that if progress in limiting armaments was less than satisfactory, it was due rather to a lack of political will than to the inadequacy of existing machinery. But whose political will? Is it that of the leaders of a few major powers or is the problem broader and deeper? With proper leadership, public opinion could be aroused, many felt, and could be translated into political will.

It was also suggested that to get at the heart of these questions one must bear in mind some of the obstacles that stand in the way of more rapid progress in disarmament. One obstacle cited was the insufficient understanding of the relationship between arms limitation and national security: there are many who do not see that the former can be a legitimate tool of the latter. Other participants pointed to the complexity of disarmament issues. Different countries have different weapons systems, and various kinds of asymmetries are present, giving rise to problems of comparability. There are numerous technical problems to overcome, of which the problem of verification is just one example. Even leaders who are eager for rapid progress face difficult problems at home as well as abroad.

Some members pointed out that disarmament mechanisms play important roles in addition to negotiation. One was an overall rationalizing and legitimating function where a central mechanism would act as a clearinghouse for the activities of the various negotiating forums. Another was an informational function for governments participating in discussions and negotiations.

The question of the relationship between mechanism and objectives was raised. What was the machinery for? Are the objectives clearly defined and widely agreed? It was suggested that for the limited objectives which are presently pursued the machinery is perhaps adequate; if the objectives are broadened then new mechanisms should be seriously considered.

A SPECIAL SESSION

The group paid considerable attention to the convening of a Special Session of the U.N. General Assembly on disarmament. The idea of a Special Session was revived at the Non-Aligned Foreign Minister Conference in Lima, Peru, in August 1975, and was endorsed by the Fifth Summit Conference of the Non-Aligned States at Colombo, Sri Lanka, August 1976.

There was general agreement in the group that a Special Session is likely to be convened in 1978. A view was expressed that the convening of a Special Session should not prejudice the holding of a World Disarmament Conference. And it was stressed by several members that every effort should be made so that the Special Session would not simply duplicate what the General Assembly and its First Committee are doing in their annual debates on disarmament.

Some members suggested that the agenda for a Special Session might include the following items:

1. assessment of the current situation,
2. consideration of basic principles,
3. consideration of a program of action specifying priorities and recommendations,

4. a review of disarmament mechanisms.

The importance of the role of public opinion in disarmament was again emphasized in the context of the Special Session, and it was suggested that this question should be made the fifth item on the agenda.

Elaborating on the various items of this proposed agenda, the following suggestions were made:

1. Assessment of the situation should be in the broadest terms, and should not be restricted to current activities of existing U.N. disarmament mechanisms.
2. The work on basic guidelines and objectives should take account of the principles embodied in the McCloy-Zorin agreement of 1961. It should include such considerations as the relationship between national security and disarmament, and balance in arms limitation.
3. It was pointed out that in calling for a program of action the Special Session would follow the example of other recent world conferences. Preparations for the Special Session should give careful consideration to the Comprehensive Program for Disarmament discussed in the General Assembly in 1970.
4. In reviewing disarmament mechanisms, there could be included such issues as the convocation of a World Disarmament Conference (WDC), and the adequacy of the disarmament mechanisms for the task they face

Not everyone was satisfied with this agenda. There were some who would like the Special Session to be a genuine forum for concluding and endorsing negotiations on such issues as nuclear testing, a regime of non-proliferation, the prohibition if indiscriminate weapons, the non-use of force, and the prohibition of new weapons of mass destruction.

U.S. participants recalled the successful role of the United States at the Seventh Special Session and suggested that the forthcoming session offers an opportunity for U.S. initiatives promoting disarmament objectives. It was specifically suggested that arms control officials throughout the government be directed to give planning for the Special Session a high priority. Moreover, Congress should request the Executive Branch to present possible proposals in time for public hearings and Congressional recommendations. U.S. non-governmental organizations (NGOs) and experts have a unique opportunity to organize their efforts to play a consultative and educational role in advance of the Special Session, as well as during the Session, with other NGOs.

It was urged that interdepartmental planning should result in a program of selected measures for the reduction of conventional as well as nuclear armaments. Finally it was urged that the U.S. government could create a favorable atmosphere for both the session and its aftermath by carrying out practicable unilateral measures.

Many felt that the preparations for the Special Session should give due attention to the linkage between disarmament and development. They pointed out that reductions in the resources being directed into the arms race could make possible the allocation of greater resources to deal with the urgent problems of poverty and economic and social development abroad as well as at home.

There was consensus in the group on the need for adequate preparation for the Special Session. A U.N. preparatory committee should be established to work out a concrete agenda for the Session. The hope was expressed that the committee could focus its attention on the substantive preparations for the Session. There was some disagreement whether majority vote or consensus would be the best way of proceeding in the Session.

There were several other suggestions aimed at enhancing the effectiveness of the Special Session and its preparation:

1. every effort should be made in the preparation and conduct of the Special Session to encourage active participation of all states;
2. studies should be commissioned in advance of the Special Session both from the U.N. Secretariat and outside experts, and the Secretariat should be strengthened correspondingly;
3. there should be an explicit role in the Special Session not only for NGOs but also for those research institutions which, by virtue of their expertise and activities in the disarmament field, could materially contribute to its success.

Finally, it was generally recognized that there was both a political and psychological difference between the Special Session and a WDC, the former having more modest objectives. While some members still preferred a WDC over a Special Session, the prospects for convening the former in the near future, in light of the continuing opposition of two major powers were considered at best uncertain.

NEGOTIATING MACHINERY

In considering the relationship between machinery and objectives, the question was raised whether a single negotiating forum is best for dealing with the numerous and complex issues and opportunities we face. There was a consensus that while the Conference of the Committee on Disarmament (CCD) was not a perfect mechanism for negotiations, it has done a useful job in several areas, it has recently proved to be relatively flexible, and it is capable of adjusting to changing needs. The CCD embodies, so to speak, the step-by-step approach of negotiating a series of specific arms control measures; but it was suggested that a broader effort to halt the arms race is needed.

At an earlier stage, the work on General and Complete Disarmament (GCD) represented this broader effort. GCD continues to be the official ultimate goal, but doubt was expressed by some on the usefulness of renewed attempts to draft a single comprehensive GCD treaty. Rather, it was felt by many participants, the international community should raise its sights from the step-by-step approach, attacking our problems on a broad front, and yet in detail — taking up the task of negotiating practicable, near-term but meaningful limitations and reductions for each of the weapons systems, deployments, and other elements which together make up the vast, dangerous, and wasteful enterprise we call the arms race.

To reflect this approach, it was suggested, we should create a new structure of several negotiating forums, each with a specific, functional mandate: nuclear arms and weapons tests, the trade in conventional arms, naval construction and deployment, chemical weapons,etc. The composition of each forum could reflect the direct interest of various countries in that subject.

This proposal could be carried out in at least two different ways. In one case the CCD would be replaced by a cluster of independent forums. Alternatively, functional sub-groups could be established within the CCD itself, with an appropriate enlargement of each country's delegation. The view was expressed that the link between the General Assembly and the CCD should be strengthened. In any case, a coordinating mechanism will be necessary to integrate and rationalize the proposals prepared by the functional forums.

The desirability of involving France and China in disarmament work was generally agreed, and the implications of their absence from the negotiating machinery were discussed. Varying views were expressed on what their participation, if it could be obtained, would accomplish, especially in the near-term, as well as on how to induce them to participate. Some thought that the first step in that direction could be the abolition of the U.S.-Soviet co-chairmanship of the CCD; others remain skeptical on whether this was the key question, and expressed concern that if pressed too hard the effort to draw in France and China could be harmful.

Limits on the most dangerous and destructive of all weapons are being negotiated bilaterally in SALT. The suggestion was made that in future forums there should be consideration of the relations between bilateral negotiations and multilateral disarmament efforts.

There was some support that disarmament negotiations can benefit from close relationship to public opinion through NGOs, research institutes, and the press. The need for secrecy should be balanced by the need for information. A consultative relation of NGOs to disarmament discussions, if not always negotiations, should be explored.

It was observed in connection with the need for negotiating machinery that while negotiated disarmament agreements are essential, progress toward disarmament can also be made through initiatives taken by individual states in the expectation of reciprocation, this progress to be ultimately institutionalized through negotiation.

It was urged that the United Nations should be kept fully and regularly informed of all disarmament negotiations, and that the United Nations should from time to time assess all discussions, negotiations, and treaty reviews, perhaps through a revitalized U.N. Disarmament Commission or through periodic Special Sessions.

REGIONAL ARMS CONTROL

The group considered the possibility of supplementing global negotiations with regional ones. This possibility seems to be gaining increased attention.
tion.

Some participants pointed out that the record on regional arms control is not particularly encouraging. Only one significant measure — the Latin American Nuclear Free Zone — has been successfully negotiated and has gathered wide support. It was suggested that the situation in a particular region must be "ripe" and that support from the major powers is usually desirable if a regional negotiation is to make real progress. There was concern that regional attempts at arms control might distract from a more inclusive global approach and that the creation of a regional forum might freeze rather than unlock a situation. Some participants emphasized the great potentials of the ongoing Vienna negotiations on force reductions in Europe, while others differed. It was also pointed out that it would be desirable if certain regional arms races could be "frozen."

Despite the problems involved, most argued that regional arms limitations could and should be advanced on a pragmatic basis, wherever favorable conditions exist. They maintained that the regional and global approaches should be viewed as complementary, not mutually exclusive, and as potentially reinforcing each other.

THE FUTURE OF THE IAEA

INTRODUCTION

The International Atomic Energy Agency (IAEA) was established in 1957 on the initiative of the United States. Its 34-member Board of Governors, in which there is no veto, and its budget, are entirely separate from the United Nations although it makes an annual report to the U.N. General Assembly. At present the IAEA has 110 members.

In suggesting the establishment of the IAEA, the United States hoped to enlist the international community in furthering the purposes of the "Atoms for Peace" program. In particular, this meant setting up an international system to safeguard against the diversion of nuclear materials from peaceful to military purposes. This safeguards function increased in importance when the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), signed in 1968, assigned to the IAEA the function of verifying the obligations of non-nuclear weapon states party to the Treaty not to divert their peaceful programs to weapons production or other nuclear explosive devices.

This assignment represents one of the few instances where an organization's functions later used to verify a treaty predated the treaty itself; there were many benefits from this fact.

Working gradually, over about 15 years, the IAEA had developed a system of safeguards, and, equally important, wide acceptance of its procedures even though they involved the visits of Agency inspectors to national nuclear facilities and the review of operating records. Acceptance of this degree of intrusion on national sovereignty reflects the realization by most of the world's nations of the danger of nuclear war. At the end of 1975, the IAEA had safeguards agreements in force with 64 states and approved agreements awaiting entry into force with 17, some under bilateral arrangements and others under the NPT.

Today the dangers of nuclear weapons proliferation are so great that the IAEA, understandably, is the focus of a broad and lively debate about the adequacy of international safeguards. The Agency has been a target for both criticism and praise. In our assessment of the way it has been used, this discussion group found much to criticize, and much to praise in the context of the Agency's future.

At the present time IAEA agreements cover all but one of the power reactors and all but seven of the research reactors — of a type whose byproducts could be diverted to weapons — outside the nuclear weapons states. In addition, four small reprocessing plants, one uranium-enrichment plant, and one fuel-fabrication plant are not covered. These figures, however, merely state the problem as it exists today. Facilities under construction, on order, or planned will add immensely to the scope of the problem. Projections of the number of facilities, together with the oft-expressed concern that there are "loopholes" even for those facilities now under such regimes, have compelled this review of IAEA's future.

In analyzing the capabilities, both present and future, of the IAEA with respect to detecting the diversion of nuclear materials from peaceful purposes to use in weapons or other nuclear explosive devices, this report assumes that the prevention of the spread of nuclear weapons, through the NPT or through widespread acceptance of IAEA safeguards, is an essential step in the interest of world peace. Those sharing this assumption, however, point out that the failure of the major weapons powers to achieve substantial measures for the cessation of the nuclear arms race and relating to nuclear disarmament may be at least as dangerous an obstacle to this objective as any lack of present or future capacity of the IAEA to detect unauthorized diversion of nuclear materials from peaceful purposes to use in weapons. The focus of the review, however, is primarily on this latter aspect of the problem.

QUALITY OF SAFEGUARDS

The IAEA has a professional staff of about 460 members, headquartered in Vienna. Of these, 100 staff members — including some 70 inspectors — are responsible for checking on the signators' compliance with regulations designed to deter (and hence prevent) diversion of special nuclear materials for use in weapons. They operate

under a philosophy that their ability to have timely detection of any such diversion will deter any such diversion from taking place.

In judging how effective this program of timely detection has been, and will be, we must recognize at least two restraints under which it must operate. The first is that restrictions, imposed in the name of national sovereignty, have inhibited, and can continue to inhibit, IAEA inspectors in their conduct of on-site surveillance at many nuclear facilities. The requirement that inspectors be acceptable to the inspected country may make it possible to stall an inspection. And the requirement of permission to cross national boundaries, and for that matter to enter a plant under the control of a local guard, makes a truly "surprise" inspection different in degree, rather than in kind, from a regular inspection. Some expressed concern that restriction of IAEA inspectors to "strategic points" in a safeguarded facility of a NPT nation, and the discretion of a NPT nation to devise its own nuclear-material bookkeeping system, also serve to limit the depth and uniformity of IAEA inspections and audits under the NPT. Some of us see these restrictions as barriers to the effectiveness of a truly global safeguards system.

Purely technical difficulties also stand in the way. U.S. sources have indicated, for example, that for large nuclear facilities inspection promises high assurance (95%) of detecting diversions of 8kg. of plutonium of 25 kg. of contained uranium, per facility, per year. Lesser quantities of diverted material would be detected with a proportionately lower probability of detection. Amounts of this magnitude, however, are roughly the quantities needed to make a "crude" nuclear explosive device, and to some critics at least this "high assurance" seems inadequate. However, this may be more than sufficient to deter a potential diverter from trying.

To be sure, no safeguards system can be completely foolproof, and it is the consensus among us that there is no absolute assurance of IAEA's success in limiting the diversion of nuclear materials leading to proliferation of nuclear weapons. This fact should, we believe, be squarely faced. For to pretend that perfect safeguards *are* achievable is to mislead the public and distort the realities of proliferation politics.

It appears likely, however, that "absolute" safeguards are not always necessary to provide some level of reasonable deterrence to unauthorized diversion, although this group felt ill-equipped to assign any numerical probabilities to such a success rate. We must also recall that IAEA safeguards are not the only programs in operation which might provide information about a diversion; there are national means of obtaining information. There are, of course, steps that should be taken to improve the quality of IAEA inspections. These include increasing the efficiency of safeguards we have. These include a need for uniform standards fairly and consistently applied; including, when necessary, round-the-clock inspection (this does not include light-water

reactors), easier access and greater physical surveillance at facilities with special vulnerabilities to nuclear-material diversion, such as natural-uranium, heavy-water reactors, that can be fueled continuously without shutdown. It also includes standardized and improved accounting methods, and standardized and better seals and monitors where access to nuclear materials should be limited. And it would include lifting some of the current restrictions on the operations of cameras or recording devices. Further consideration should also be given to making publicly available the inspection reports and the evaluation of accounting reports and material balances.

In evaluating these international standards we should bear in mind that there is no apparent technical or scientific reason why IAEA safeguards techniques could not be significantly improved and extended. That they have not been improved and extended comes down to a matter of political decision on the part of governments concerned. As one participant put it: "An international agency can only do what its members want it to do. It has no authority of its own. If you don't like what it's doing then don't blame the agency — blame the member states." Indeed, compared to the worldwide total expenditures of money and manpower for nuclear development the Agency's budget and staff seem miniscule.

In evaluating the deterrent capability of IAEA safeguards, we should also bear in mind that IAEA cannot — and does not claim to — provide: (1) physical protection to nuclear facilities; (2) actual prevention of diversion or pursuit and reconnaissance thereafter; (3) detection of clandestine nuclear activities; and (4) regulation of nuclear exports. Also there are certain practical and political limitations on the immediate and drastic application of sanctions against diverters in violation of its safeguards.

In making an overall evaluation of IAEA safeguards that takes all these considerations into account, perhaps the most honest thing we can say about current IAEA programs and procedures is that, considering their objectives, they are "generally reliable" and "workable" where they are applied. The group agreed that while accountability and surveillance problems exist, there is no evidence of any diversion for military purposes. Some felt that in light of the aforementioned safeguards problems, the mere fact that no diversion has been disclosed by the IAEA is insufficient assurance that diversions have not, in fact, taken place. In short, as we will indicate later, both the breadth and depth of those operations should be improved if the IAEA is to meet satisfactorily the tasks that lie ahead.

BREADTH OF APPLICATION OF IAEA SAFEGUARDS

We considered the breadth of the IAEA safeguards within an individual state, in particular whether or not it would be advisable for states accepting these safeguards to place *all* of their entire nuclear fuel

cycle activities under Agency regulations. As Director General Eklund said to the IAEA's Twentieth Session of the General Conference: It may be necessary to stipulate "as an irrevocable condition for the delivery of nuclear material or equipment, that the receiving state accepts IAEA safeguards on its entire nuclear programme."

Technically it is easier to "balance the books" if all the "pages" are open. A safeguard system that covers the entire fuel cycle system of a state is easier to administer and more reliable than one restricted to particular facilities.

Politically a total-fuel-cycle approach is also attractive, because it is of dubious merit to be able to apply stringent safeguards to some of the country's nuclear facilities while ignoring others. This also serves as a source of discrimination against parties to the NPT who accept safeguards on all sources of special fissionable material and all peaceful nuclear activities while at the same time such materials are sold to countries not party to the Treaty under safeguards applying only to the particular materials being transferred.

A method of handling this problem would be the widespread adoption of a policy not to provide nuclear assistance to any non-nuclear weapon state not party to the Treaty unless they have agreed to accept IAEA safeguards on all their peaceful nuclear programs.

We recognized that such a policy, which seems to be required by the spirit of the NPT, may present some problems under the various U.S. bilateral agreements for nuclear assistance, some of which appear to be pointing in a different direction from the Treaty. We believe, however, that this problem can be handled, by renegotiation of bilateral agreements or otherwise.

There has been increasing pressure within the U.S. Congress for substantial U.S. initiatives to upgrade national and international measures for non-proliferation. The Symington Amendment to the Foreign Assistance Act of 1961, recently enacted into law, cuts off certain U.S. aid for any country exporting or importing the means to enrich uranium or reprocess spent fuel to extract plutonium unless the importing country places *all* of its nuclear facilities under IAEA and agrees to place the facilities under multilateral auspices when available. Because the immediate impact of the bill is on a relatively small number of countries (perhaps two or three at the present time), and because of an elaborate set of provisions for Presidential and Congressional reactions over whether the restrictions can be set aside, the worldwide impact of the bill may not be too great. Yet it is useful as an indication of the way attitudes in Congress are forming. It appears likely that additional legislation along this line, for non-proliferation policy, will be considered by the 95th Congress.

Practically all of our group was in sympathy with this direction in U.S. Congressional policy. This concept raises, in the minds of some

participants, doubt about the standing of the nuclear weapon state to insist on inspecting the facilities of non-nuclear weapon states in order to be sure that they are not being used to make weapons while refusing to permit inspection of their own facilities on a similar basis and continuing to turn out increasing amounts of material for their own weapons use. Carried to its logical conclusion this doubt could be met by an agreement by all powers not to produce nuclear materials for use in weapons.

The participants were sympathetic with this position, but many felt that adopting a policy that might result in full IAEA safeguards for non-weapon countries was too important to hold it up until the adoption of a treaty on the cessation of production of nuclear materials for use in weapons, and this has been the subject of negotiation without success for many years.

POSSIBLE CHANGES IN STRUCTURE AND FUNCTIONS OF IAEA

Separate Promotional and Regulatory Functions

By a sizable margin this group rejected for now the frequently made proposal to split the IAEA along functional lines, much as the U.S. Atomic Energy Commission (AEC) had been split in 1975 into separate regulatory (NRC-Nuclear Regulatory Commission) and research-and-promotion (ERDA-Energy Research and Development Administration) bodies. While many members saw no useful parallel between the U.S. experience and the future of IAEA's operations, most nevertheless said that if a functional split should be made in the future, one of the new bodies be charged with research and promotion on all forms of energy. In addition, a view was raised that a new body to deal with alternate energy sources might more fittingly be established within the United Nations.

Assume Responsibility for Physical Security

The group considered the Agency's possible role in physical security against theft and sabotage. Although a majority of the group felt that the IAEA should take no direct responsibility for the physical security of any installation or material not its own, the group did believe that the IAEA should have a role in the problem of physical security that could run parallel to, and perhaps sometimes be a part of, its role in safety matters. For example, we agreed that the IAEA should continue to develope, improve, and circulate model physical-security plans and assist states in implementing them. We also concluded that individual security plans should be reviewed and approved not only before the IAEA gives assistance to a plan but also before certain preferential credit or financing agreements are made by such public financial institutions as the U.S. Export-Import Bank or by the World Bank. We

further suggest concluding an international convention to establish physical security standards calling for IAEA supervision.

Prevent As Well As Detect

We were divided on the question of whether or not IAEA should have a role and effectiveness in the *prevention* of diversion as well as in timely *detection*. There was, of course, no disagreement that the IAEA does not have the power to engage in direct prevention as such. We discussed, and some of us disagreed on, the extent that the IAEA could cause sanctions to be imposed as a result of a diversion that would have the effect of preventing diversion. We concluded that the future role of the so-called "suppliers group" bears directly on this policy alternative. The possibility was discussed that the suppliers might choose to impose their own economic sanctions as a means of forcing their customers to accept IAEA or more stringent safeguards. Considerable skepticism was expressed on this point by many, and some regretted that the policy of secrecy maintained by the suppliers group made effective discussion of this point impossible.

Considering action the Agency could take on its own, it was pointed out that a finding of a diversion by the Board of Governors of the IAEA could result in suspending any nuclear aid from the IAEA. It would also result in action by which the IAEA directed any other Agency members with whom the offender had nuclear arrangements to suspend any shipments of nuclear materials. We discussed the opinion that there was a legal obligation to comply with this direction, but we could not generally agree about whether there would be compliance. In considering what sort of sanctions could be applied, the group concluded that no clear schedule of penalties could practically be devised in advance. It may be useful, however, to develop a progressive scale of possible sanctions, beginning with the most fundamental and operational, such as citing a facility for violation and withholding further technical assistance. From these procedural beginnings could come an escalating choice of options, ending with a referral to the Security Council. We recognized that the final sanction would be (in addition to economic measures discussed above) this referral to the Security Council. All these steps would require the political will of the member states, particularly the Board of Governors, and such political will has not as yet been tested.

Extending the Agency's Authority

This option follows directly from the prior subsection because one way the IAEA could prevent, as well as detect, diversion is to conduct certain nuclear operations. A variant of this approach could be to arrange to conduct such operations by a multinational organization under IAEA direction. This arrangement we believe would make

diversion less likely. We divided on the question of extending IAEA actions into the various sections of the fuel cycle. As to reactors, there was no support for direct operations by IAEA, and slight support for indirect operations in special circumstances through a multinational facility under Agency direction. We did agree, however, that IAEA operation of spent fuel storage (as authorized by Article XII, subparagraph A-5 of the Statute) is a first and logical step to possible involvement in other aspects of the fuel cycle. On other matters, such as chemical reprocessing, our views differed widely. Some members thought the IAEA had no direct role in operating reprocessing, a majority thought we should adopt a "wait-and-see" attitude to such involvement, and a few thought that direct participation by the Agency would be useful in the future. It was our consensus, however, that it is premature to make a decision for the IAEA, in part because the advisability of reprocessing — from non-proliferation, safeguards, and economic reasons — is still too uncertain. Nevertheless, some thought reprocessing essential.

We do concur that the IAEA should conduct research and development on alternative methods for handling and using spent fuel, e.g. the so-called "tandem fuel cycle" that re-uses spent fuel from light-water reactors in heavy-water reactors. The so-called "thorium fuel cycle" is another candidate for future research and development, and should be pursued.

U.S. SUPPORT FOR IAEA IN FUTURE

The United States, as the founder and a principal participant in the IAEA, has special opportunities and obligations to assist the Agency's continued development.

First, it should take a financial lead in assuring that the Agency's budget will be adequate — and its sources of funding reliable — for the tasks that lie ahead. IAEA officials say that present levels and sources of their funding are adequate to meet current needs. But before long the worldwide expansion of nuclear power — and the necessary extension of inspection and other services to more countries and facilities — will require drastic increases in the Agency's financial resources. IAEA is now funded by annual assessments and voluntary contributions. For the 1980s and beyond many felt new funding mechanisms seem necessary, and the group heard proposals for different approaches to this task. For example, an international assessment on nuclear power plants (perhaps one-twentieth of a mill per kilowatt hour) would vastly increase currently available funds. Using this suggested price, a 1,000-Mwe plant would provide a revenue of $300,000 a year — one-twentieth the present total IAEA annual safeguards budget, which is about $6 million a year.

Another possible source of revenue could be a higher contribution from the United States and other major powers to help in achieving truly adequate safeguards.

Second, the United States, should take the lead in sharing its technical safeguards capabilities with the IAEA. This can be done two ways: (1) by granting technical assistance money and personnel to carry out the research and development programs that the IAEA considers most essential for improving its safeguard capabilities, and (2) by sharing with other nations — through IAEA technical-information exchange — the latest techniques and equipment for conducting safeguards activities. In this connection, the United States could also give priority to developing further such equipment as portable monitoring devices for use by IAEA inspectors.

* * * * *

Money, techniques, and improved sensors all may be necessary to assist the IAEA in the struggle to prevent the spread of nuclear weapons. But they are not enough. What is needed is political will, on the part of the United States as well as other countries.

Some members suggested that the NPT, verified by the IAEA, however commendable, was not a bold enough step to prevent proliferation of nuclear weapons because it was not universal and has no truly effective sanctions behind it. The suggestion was made that there should be a universal treaty outlawing the *use* of nuclear weapons and calling on all other nations of the world to take immediate enforcement measures, to the full extent of their power, against any state that did use nuclear weapons. It was further suggested that a worldwide conference be called to consider such a treaty.

Many of the participants indicated they would favor a treaty outlawing the use of nuclear weapons; most of those taking this view indicated they would favor such a treaty only if it permitted the use of nuclear weapons in defense against an armed attack in which a nuclear-weapon state was actively participating. Many also took exception to the automatic enforcement action called for in the suggestion.

Notwithstanding this difference, we all believe that the peaceful use of the atom brings with it a special moral and international humanitarian concern to avoid the ultimate horror of nuclear war, the destruction of civilization as we know it, if not the extermination of mankind. Against this background the narrow concerns of national sovereignty and financial penury, which may, if we are not watchful, stand in the way of helping prevent this catastrophe, are dwarfed to the insignificance they deserve.

SALT: NEGOTIATING PROCESS

In November of 1969 the United States and the Soviet Union initiated the Strategic Arms Limitation Talks (SALT). The first set of negotiations, SALT I, resulted in the Antiballistic Missile (ABM) Treaty which limited both sides to two ABM sites and the Interim Agreement on Offensive Arms which in effect, placed a five-year freeze on the aggregate total of Intercontinental Ballistic Missile (ICBM) and Submarine-Launched Ballistic Missile (SLBM) launchers in the United States and Soviet Union. Since May 1972, when these two agreements were signed, discussions have continued but there have been no further agreements on strategic arms, except the Protocol to the ABM Treaty which reduced the permitted number of ABM sites to one each. The Vladivostok understanding, reached in November of 1974, established the guidelines for an agreement to replace the Interim Agreement. The envisioned new agreement would limit each side to an aggregate of 2400 strategic launchers (which includes ICBM and SLBM launchers and heavy bombers); it would also limit each side to no more than 1320 launchers for missiles equipped with MIRVs (multiple independently targetable reentry vehicles). This proposed SALT II agreement has not, however, been forthcoming, and the negotiations are stalemated over

the questions of the inclusion of the Soviet backfire bomber in their 2400 aggregate and the limitation to be applied to strategic cruise missiles.

Both sides are committed to continuing negotiations to limit strategic weapons. While the principal obstacles to progress are substantive rather than procedural, the future of these negotiations, and, indeed, the future of strategic arms control in general will depend to a significant extent on the process by which the United States and the Soviet Union negotiate with each other in this area. It was the purpose of this discussion group to examine the SALT process as it has operated in the SALT I and II negotiations and to suggest ways that it might be made a more effective instrument for reaching agreements.

THE SALT PROCESS

In considering the SALT process the group recognized that not one but three SALT negotiations take place concurrently. In addition to the U.S.-Soviet negotiations, there are important and often difficult negotiations that take place internally in Washington and presumably Moscow, for it is here that the political consensus is reached which sets the parameters for the negotiation between the Americans and Soviets. In Washington, the current U.S. mechanism for analysis and decision-making, which includes inter-agency study groups, the Verification Panel, and the National Security Council (NSC) system frames the issues and forces out those positions which have no bureaucratic sponsors. In fact, during SALT I, the Verification Panel served to shape and focus President Nixon's and then National Security Advisor Kissinger's thinking about the role of the ABM. In particular, detailed analysis of the effects of large scale ABM deployments on both sides on strategic stability apparently helped persuade Nixon to offer to abandon a system that he had personally invested considerable political capital in getting adopted by the Congress.

The negotiations between the Soviets and Americans in SALT I took place on two levels: (1) the front channel, formal negotiations between the two delegations and (2) the back channel and summit negotiations between Nixon and Kissinger and their Soviet counterparts. The back channel negotiations were decisive in reaching agreement but the delegations performed an important role in exploring issues and resolving many, drafting agreements and dealing with some of the highly technical issues like radar limits. The U.S. SALT II delegation appears to have been given less freedom to engage in exploratory discussions than the SALT I delegation.

The SALT I and II negotiations have been conducted in secret. Strategic arms had a great mystique about them at the beginning of SALT I and neither side was ready to disclose much information about them. Furthermore, it was felt that private negotiations would prove

more constructive because there would be less incentive to let polemics enter into the discussion. However, even if the public and the Congress were given information about some issues, they were not given information about the options considered by the President in resolving those issues and clearly did not participate in that decision-making process. Advocates of greater public information about SALT point to the lack of clear and complete disclosure of the nature of the U.S.-Soviet MIRV-ban proposals in early and mid-1970 and the state of the negotiations on a MIRV-ban at that time as an instance in which greater information could have broadened participation in the process and could have changed the results.

While most concede that this tight secrecy existed at the beginning of SALT I, some argue that the process opened up later and that in the 1972-74 period the broad outlines of what was under negotiation were known. All recognized, however, that the administration has not made comprehensive statements on U.S. proposals in SALT I and II, and that it is only by sifting through the sometimes erroneous and sometimes accurate material in the press and journals that one can discern some idea of U.S. and Soviet positions.

EVALUATION AND SUGGESTIONS

There were differing assessments of the adequacy of the present SALT process. While no one felt that it was perfect, some did feel that the process was basically satisfactory, needing only minor changes. Those who defended the present process considered it important not to blame the lack of a SALT II treaty on the SALT negotiating process. Some argued that the NSC system was successful in framing the issues for decisions by the President but that the decisions at the top were not forthcoming.

The group differed sharply over the extent to which the SALT negotiations should be made more public. Most agreed that more openness was desirable in order to broaden public understanding of and participation in the SALT process. There was no consensus on the degree of publicity desirable. Some maintained that the basic *proposals* of the U.S. government should, within a reasonable period of time, be made available to the Congress and the public, and that the specific Soviet proposals and counterproposals should be discussed with the appropriate Congressional committees on a regular basis. On the other side, the majority of the members seemed to feel that it would be a mistake to make U.S. *proposals,* as opposed to general U.S. *goals,* public. Others argued that it was much more difficult to change negotiating positions that had been officially established in public, and, in particular, that it was much easier to get "tougher" in the public domain than "softer." The proponents of disclosure of negotiating proposals rejected these arguments; they cited examples of public

negotiations, like those concerning the Non-Proliferation Treaty (NPT), which were successful and asserted that the benefits to arms control and the democratic process of public participation in important government decision-making far out-weighed whatever inflexibility such publicity might interject into the bargaining process.

A related issue concerns the extent to which U.S. verification capabilities should be made public. Recent charges of Soviet cheating on SALT I have created some public uneasiness about our ability to ensure Soviet compliance. Although the intelligence community tends to resist disclosing any information about our "national technical means of verification," many urged that more information (including satellite photographs) could be made public without compromising necessary capabilities, and that more disclosure about verification capabilities and compliance issues was necessary to recapture public confidence in our verification abilities and the SALT process itself. Several members did indicate, however, that they believed that the public would be surprised not by the extent but rather the limits of our capabilities, due to the rather extravagant technical claims that have been made in the last four years about reconnaissance satellites. It was further acknowledged that while one might want to publicize more compliance information, one should be sensitive to the need to preserve appropriate confidentiality of the meetings of the Standing Consultative Commission (SCC), which is charged with overseeing the continued compliance with the SALT I agreements to encourage the Soviets to be forthcoming in the SCC with evidence to allay our fears of violations. Even so, at least one member of the group considered secrecy in the SALT negotiations more important than secrecy in the SCC.

There was also disagreement about the role of the Congress in SALT, and, in particular, the amount of information given the Congress by the Executive. There was general agreement that the Congress is not adequately informed on SALT-related issues. There was disagreement about the extent to which this was due to shortcomings on the part of the Executive Branch or on the part of the Congress. Most, however, felt that members of Congress should not be on the U.S. delegation.

Although the group agreed that the NSC system had functioned reasonably well, at least one member felt that the head of the Arms Control and Disarmament Agency (ACDA) was not given due deference in the NSC arms control policy making process. He maintained that the Arms Control and Disarmament Act, which made the Director of ACDA the principal advisor to the President and Secretary of State on arms control and disarmament policy, was intended by the Congress to give the head of ACDA a special voice in arms control matters and that the present NSC system was not consistent with that intent. Others disagreed, asserting that the Congress could not force the President to accept anyone's advice and

that the head of ACDA could now and indeed did now report directly to the President. All acknowledged that the head of ACDA does not have the power to initiate inter-agency studies, unless authorized by the NSC. Some believed he should have that authority; others considered that a proper restraint on ACDA's power over other government agencies' activities.

Most members felt that Henry Kissinger had been given so many roles to play in U.S. foreign policy that the SALT process sometimes suffered. While it was acknowledged that the President's national security advisor should play a central role in the SALT process, the consensus was that this advisor should not also be the chief presidential negotiator. Such a dual role not only causes delays in decision-making due to the significant time such a presidential emissary spends out of the country, but it also can lead to only periodic and sporadic exploration of the issues. Furthermore, since negotiators sometime tend to become more concerned with getting agreement than with substance, it was considered wise not to have the person who is senior advisor and coordinator on substance also do the detailed negotiations.

The group agreed that high caliber negotiators are very important to the success of SALT negotiations. Negotiators must be competent to address issues which are highly technical but critical to a workable SALT agreement. There was disagreement about the extent of flexibility to be given negotiators, however. While no one argued that the negotiators should make general policy, some did feel that they should be allowed to explore more extensively alternatives with the Soviets and should be encouraged to make more recommendations to the decision-makers in Washington. It was acknowledged, however, that the success of such an exploration on the delegate level was in part determined by the degree of flexibility given the Soviet negotiators. While recognizing that further restrictions on the negotiating power of delegates caused delays and perhaps missed opportunities in arms limitation, some members maintained that this was at times inevitable because of the need to integrate arms control positions with other domestic and foreign policies.

The current SALT delegation includes top-level representatives, with their own staffs, from several agencies. This system emphasizes each member's agency affiliation and tends to slow down negotiations and to contribute to the administration's emphasis on the less cumbersome back channel. However, it does make it easier to get domestic acceptance of the SALT agreements once they are negotiated.

The group seemed generally to agree that ideally the head of the delegation should be a person of high stature, personal career flexibility, and political clout, with a close relationship with the President and with members of Congress. Some considered most career civil servants and foreign service officers unlikely to have this type of political stature and maneuverability; others maintained that these

groups often have the greatest expertise and should not be ruled out as a group.

In terms of bargaining tactics, the group agreed that bargaining chips and "hedging" authorizations were a part of the present SALT process but were unable to agree on suitable and workable substitutes. No one had much confidence in the possibilities of unilateral restraint as an effective bargaining technique. Some did argue that instead of appropriating money to systems and beginning to build them in order to create a bargaining chip to then negotiate away (as was done with the safeguard site in Grand Forks in SALT I), the Congress and President should agree on contingent authorizations which would be used for new weapons systems only if the two sides were unable to reach a suitable arms limitation agreement. Some doubted the credibility of this technique and the likelihood that the Congress would give such contingent power to the President after pushing to get the authorization, albeit contingent, through the Congress. All recognized, however, the difficulty of stopping a weapons system once it achieved a significant amount of momentum in the research and development process.

Finally, the group agreed that the SALT process could only work if there were strong presidential leadership. Because varying groups are likely to oppose particular arms control measures, the President must not insist on total consensus; instead he or she must be willing to overrule the agencies when necessary. It is true that there are limits to the President's liberty to alienate certain powerful groups which have strong advocates in Congress, but it was argued that the President could do more in arms control by being more bold and more willing to cultivate his or her own powerful constituency in the Congress and the general public.

INTERNATIONAL PLUTONIUM MANAGEMENT AND NON-PROLIFERATION STRATEGY

INTRODUCTION

Until recently, the principal focus of U.S. non-proliferation strategy has been the negotiation, ratification and implementation of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) which entered into force in 1970 and now has grown to include almost 100 nations.

Since 1973, however, new elements, complexities and challenges have been injected into the non-proliferation scene which serve to define and to sharpen the plutonium management issues to be resolved in the next 20 years. The surging price of oil, following the Middle East war of 1973 and OPEC's substantial control of the market highlighted the limited extent of the world's oil resources. It convinced many advanced and developing countries, including the oil producers, that they had essentially *no* option other than to concentrate on nuclear power. As a result, it is virtually certain that by the mid-1980s there will be an accumulation of vast amounts of spent fuel produced by nuclear power reactors in many parts of the world. From this "spent fuel" it is possible to recover plutonium, which then can be used either for nuclear power or to produce nuclear explosive devices.

The reality of this danger was highlighted by the second development — the Indian nuclear explosion of May 1974, which provided a dramatic demonstration that the development of nuclear power with only partially safeguarded facilities gives any country which possesses a reprocessing plant a derivative nuclear weapons option.

The third development of the 1970s was the maturing of nuclear power in the advanced countries, particularly in Western Europe, and the development of a lively competition in power reactors, reactor components, and other nuclear facilities, and in all probability, by the early 1980s, in enriched uranium. At one stage there were apprehensions that commercial competition among suppliers might result in a relaxation of safeguard requirements. Another development of the growing competitive market has been a tendency to make available the sale of a nuclear power plant — the most costly component — with the sale of fuel cycle facilities, particularly reprocessing plants, which make it possible to separate plutonium into a form usable in the manufacture of nuclear explosives.

In the past two years it has become apparent that in addition to the NPT, a "second track" is needed to take care particularly of the nonmembership of France (a current supplier) and of the non-NPT countries developing nuclear power, such as Argentina and Brazil, India and Pakistan, Israel and Egypt, South Africa, and Spain. As a result of this situation, there are gaps in the non-weapons commitments and the safeguards coverage of the NPT regime. While specific equipment and materials acquired by the non-NPT states from member states are subject to International Atomic Energy Agency (IAEA) safeguards, those that are indigenously constructed, or received from a non-NPT supplier state, may not be safeguarded.

In an effort to reduce these gaps in safeguard coverage and to control access to plutonium and highly enriched uranium, the United States has undertaken to develop a common front among the principal supplier nations concerning the safeguards and restrictions to be applied to all international transactions.

These developments have led to increasing concern in the U.S. Congress and to a basic reexamination in the Executive Branch of nuclear export policies. Extensive hearings have been held and recent legislation enacted to establish more rigorous policies and controls on the export of nuclear technology. Meanwhile, the United States is at a critical stage of decision in terms of its own power requirements. The question is now before the Nuclear Regulatory Commission whether to license reprocessing and plutonium recycle for widespread commercial use in current light-water reactors. This has proved to be a highly controversial issue both within and without the government.

Although this group dealt heavily with the technology of nuclear proliferation, the climate of insecurity that nurtures such weapon capabilities also includes fundamental military, political, and economic questions.

This group focused on the following subjects: the NPT regime; safeguards and the supplier conferences; the adequacy of IAEA safeguards; multinational fuel centers and the IAEA role in fuel cycle management; domestic recycle; and Congressional legislation. Despite this focus, we recognize the fundamental military, political, and economic questions that create a climate of insecurity which nurtures such weapon capabilities.

THE NPT AND INTERNATIONAL CONTROL

In order to secure agreement concerning plutonium management, the group agreed, the supplier states must appreciate the grievances, the sense of discrimination, and the expectations of the non-nuclear weapon states (NNWS) under the NPT regime and seriously attempt to find remedies for them. For example, states beyond the NPT regime can still import nuclear power equipment and materials without accepting obligations incumbent upon NPT parties. There should be greater benefits for NPT members than for non-members. At least the NPT contains a commitment and offers NNWS parties protection against domestic influences for a nuclear weapon capability while, concurrently, reassuring neighbors of a state's peaceful intentions.

However, the possible risks of withdrawal from the Treaty should be given greater recognition and penalties for violations should be strengthened. For their part, NNWS signatories argue that those suppliers which are also parties to the Treaty have weakened it by failing in their own obligations (i.e., vertical arms control, technological assistance, etc.).

For the sake of sovereignty and potential economic benefit, many NNWS are eager to maintain all developmental options. Earlier shortcomings in U.S. fuel supply have given such states sufficient reason for sensitivity. It was argued that their competition for advanced nuclear capabilities portends not so much regional military rivalries as it does NNWS fear that technological inferiority will only encourage further discrimination in their dealings with nuclear weapon powers.

It is U.S. policy to oppose the transfer of both enrichment and reprocessing technologies since both imply a weapon potential. The current type of nuclear power reactors can be commercially exported and operated with or without the reprocessing of fuel and the recycle of plutonium. The emphasis on reprocessing for fuel supply cannot be a significant part of the reason for acquiring such a capability since reprocessing would only satisfy at most twenty percent of a state's nuclear fuel needs. But there remain too many divergent views on energy independence, economic benefits, and the future of technology for NNWS to base their decisions on current calculations, according to some discussants.

SAFEGUARDS AND THE SUPPLIER CONFERENCES

In the area of safeguards, substantial progress has been made at the supplier conferences to eliminate competition among suppliers to be applied to individual transactions with importing nations. Moreover, these IAEA safeguards have been strengthened in several respects, including: (1) the requirement of specific assurances that exports to a non-NPT country are not used to make nuclear explosives for any purpose, peaceful or not, as is currently the case with NPT members; (2) that the importer has adequate physical security for those facilities and materials; (3) that the same safeguards will be required by the importing country on any re-export of these facilities and materials; and, finally, (4) that safeguards would be extended to any replication of sensitive facilities using important technology involved in the transaction.

Despite this progress in safeguards and the establishment of some common restrictions on the transfer of sensitive technologies, some discussants saw a need for tougher restraints on reprocessing and the export of sensitive facilities. Some legislative skepticism was expressed over the adequacy of these achievements of and prospects for further progress.

However, the cooperation of user nations and their acceptance of supplier restrictions will ultimately be essential to ensure the success of the non-proliferation regime. It is generally recognized that any attempts to proceed on a confrontation basis with the other suppliers would probably fail. (Since none of the suppliers receive U.S. military or economic aid, recent proposals of enforcing U.S. policies through their curtailment in fact only apply to the user nations.)

These above points are important steps to fill some of the gaps in coverage produced by the fact that not all suppliers and not all receiving countries are NPT members. But the fact still remains that NPT countries have safeguards on all their facilities, constructed indigenously or with outside assistance. The same is not true of non-NPT members.

One possible remedy is a suppliers agreement to condition transfers of fuel, equipment and technology to non-NPT countries on their acceptance of IAEA safeguards on all their facilities, indigenous or acquired with outside assistance (the so-called "poor man's NPT" — accepting the full range of safeguards, but without a formal non-weapons commitment under the NPT). It is understood that the IAEA is prepared to consider measures to implement such an approach, if adopted by supplier countries.

The IAEA capabilities to guard adequately reprocessing plants was considered. The group concluded that given a combination of methods, particularly physical presence, reprocessing plants can be safeguarded in terms of providing prompt detection of diversion. However, even if detection is prompt the time scale between diversion and weapon

acquisition could be very short, even though some thought it an unlikely eventuality. We are more concerned with the greater threat of outright termination of IAEA agreements. Ultimately, the effectiveness of safeguarding depends on the measures that are taken after detection. There are no precedents for action once a violation is detected.

SANCTIONS

Although no sanctions are provided for the NPT, they can in fact be applied by both the IAEA and by individual supplier states. The U.S. Secretary of State recently noted that "any violator of IAEA safeguards must face immediate and drastic penalties." What does this imply or is it best to leave the consequences deliberately vague? Termination of the violator's fuel supply would be an obvious first step, should the supplier states be in agreement. This could combine with IAEA procedures (i.e., expulsion, report to security council, etc.) to create a multilayered deterrence system. A violator is risking far more than the loss of one contract when confronted by suppliers enforcing sanctions through the IAEA. The group believed that although we should go further in shaping the sanctions imposed by the supplier states, once this practice is combined with the IAEA, the deterrent value is significant. It was recognized, however, that there could be severe disagreement over precisely what constitutes a violation.

MULTINATIONAL FUEL CYCLE CENTERS AND THE ROLE OF THE IAEA

In the search for alternatives to the development of premature and dangerous national reprocessing plants several concepts were examined, designed to reduce the motivation for nations to acquire national facilities of their own. One of these — the provision of centralized reprocessing services within supplier territory was only briefly examined by the group, except in the context of the domestic issue of plutonium recycle, considered hereafter, where there were substantial differences of opinion.

More attention was given to the concept of multinational fuel cycle centers, first proposed by the United States in 1974 as an alternative to national reprocessing plants and as a reinforcement of IAEA safeguards. It is currently the subject of a feasibility study by the IAEA.

Without prejudicing the findings of the IAEA, the group expressed some skepticism as to the balance of advantages and disadvantages of such centers in plutonium management and in proliferation terms.

There was little doubt that the concept of providing a few large plants to store, reprocess, and fabricate plutonium fuel for recycle would reduce the worldwide access to nuclear explosive material in national plants. It had logical economic and technological justifications as an alternative to uneconomic and premature reprocessing plants. It

had the physical advantages of co-located facilities. It simplified the safeguards assignments of the IAEA in a few large plants rather than many small ones. Because of its multinational nature, the risk of national takeover and diversion of plutonium was reduced, and the safeguards and security of the plant would be enhanced with other nations as monitors of national behavior.

In practice, however, a number of drawbacks were noted. What nations would agree on a multinational venture? Where would it be located? Designed as an alternative to premature national reprocessing would it instead accelerate premature interest in reprocessing and plutonium separation which would otherwise not exist?

Furthermore, considerable skepticism, if not outright opposition, to multinational fuel centers by some of the principal suppliers was observed with an immediate market for national reprocessing plants, and by some of the Third World countries who dislike the complicated nature of such centers and are concerned about the possible domination of such centers by the supplier countries engaged in enterprise.

Accordingly, there was considerable support for a very modest initial approach by the IAEA to this venture, perhaps by a proposal for spent fuel storage facilities as the first step. This would leave open, for evolutionary development, the question whether these centers should grow into full fuel cycle facilities, with co-located reprocessing plants, fuel fabrication, and waste disposal facilities. Meanwhile, a major effort should be made to devise genuinely effective international controls over such centers.

Currently, study is being given to the possibility of utilizing the hitherto unused authority of the IAEA, (under sections 12(a) (5) of its statute), to establish IAEA repositories for the storage either of spent fuel, before reprocessing, or of plutonium, after reprocessing. The prevailing view is that attention should be given first to spent fuel repositories, and that IAEA plutonium storage should be a part of the evolutionary development of co-located multinational fuel centers, at a later date, because of the extreme sensitivity of transporting and safeguarding the separated plutonium.

An interim possibility might be to make use of this authority of the IAEA at existing reprocessing plants in the advanced countries and to give the Agency the special responsibility of establishing secure and safeguarded repositories at the site of the plant, pending mixed oxide fuel fabrication.

DOMESTIC — PLUTONIUM RECYCLE

There was extensive discussion of the controversial issue of whether to license reprocessing and plutonium recycle for industrial use in the United States. In domestic terms, there is uncertainty in projecting the balance between fuel value of recovered material and the mounting reprocessing costs. These uncertainties involve the future costs of

uranium and enrichment services, capital costs, waste disposal costs, and the mode of operating the reactors and the recycle of plutonium to them. In whatever case, any fuel cycle savings will be a very small fraction of the total cost of generating nuclear power.

A strong industry view is that the commercial development of the breeder depends on the recycle and reprocessing of plutonium and that such development is the most compelling reason for reprocessing. This view states that the prompt demonstration of the viability of reprocessing is necessary to the commercial viability of the breeder. A further industry view is that reprocessing is integral to current plans for radioactive waste disposal.

Others argue that the problem of waste management may be better met by foregoing reprocessing and permanently disposing of spent fuel, or by deferring reprocessing and temporarily storing spent fuel.

There is disagreement as to whether the encouragement of uranium exploration and the enlargement of enrichment capacity and the storage of spent fuel in retrievable form could extend the commercial life of current reactors for several decades until the commercial feasibility of breeder reactors is demonstrated. Finally there is disagreement over the severity of unresolved environmental, technological, safeguards and security problems involved in the plutonium cycle.

The decision, however, may ultimately depend on international considerations and on fortifying the U.N. non-proliferation objective of discouraging widespread acquisition of national reprocessing plants. Here, a central problem is how to convince user nations that indigenous reprocessing is not an economically viable feature of a national nuclear program.

Some think that the provision of reprocessing services by the supplier countries — through large scale plants, perhaps of a multinational nature which would be supplied when the commerical need for such services became clear — would reduce the incentives to acquire small, uneconomic but dangerous national reprocessing plants.

Others consider that the impact of the U.S. decision to defer commercial reprocessing (with the possible exception of a government demonstration plant about which views are varied) until required for the commerical use of the breeder reactor, would do more than anything else to convince user nations that they can fully meet their nuclear power needs without acquiring reprocessing plants. At that point, it would be far easier for the supplier countries to take the position that the acquisition of national reprocessing plants by Third World countries has no current peaceful nuclear power justification, that restrictions on the sale of reprocessing plants is therefore not discriminatory, but rather is justified by the non-proliferation objective of preventing the accumulation of nuclear explosive materials all over the world.

DOMESTIC — CONGRESSIONAL ACTION

Proliferation issues have been of increasing concern to the Congress and have lead to a number of initiatives during the past session of the Congress.

Measures approved included Senator Symington's amendment to the Foreign Assistance Act of 1961 and S. Res. 221 sponsored by Senator Pastore and others.

One comprehensive initiative, S. 1439, introduced by Senators Percy, Ribicoff and Glenn, was under active consideration in amended form when the clock ran out on the past session.

Against this background, the group believes it is reasonable to expect a number of initiatives in the new Congress.

These proposals will be spurred by a belief, apparently widely held in the Congress, that the United States acting on its own in a leadership role and with other supplier nations can achieve sound and acceptable controls on nuclear transfer which will constrain the proliferation of nuclear explosive devices.

Undoubtedly, new initiatives can be expected from the Executive Branch. In order that new controls are imposed without jeopardizing the U.S. position as a reliable supplier, it is necessary that there be the fullest possible consideration of the issues including the legitimate concerns of other suppliers and recipients leading to efforts which are positive and cooperative. Positive results in negotiations with suppliers would reassure Congress and help give direction to any further initiatives.

Some of the requirements expected to be considered include:

(1) IAEA safeguards on *all* facilities;
(2) Non-explosion pledge;
(3) Strict controls on any reprocessing, enrichment, and stockpiling;
(4) Restrictions on the transfer of enrichment and reprocessing materials, equipment, and technology;
(5) Retransfer only under strict criteria.

Tougher criteria may be spelled out as goals to be sought in discussions with other suppliers.

Whether these requirements are pursued by Congress or the Executive Branch, we believe it important that incentives be coupled with restrictions. There should be rewards for those recipient nations willing to take steps which reassure supplying nations that nuclear explosions will be foregone. Incentives might include preferential treatment in the support of nuclear power programs, simplified and reliable licensing procedures, a re-opening of the order book for fuel contracts, and possible security arrangements which would reduce risks occasioned by a decision to forego nuclear weapons.

THE DE-MILITARIZATION OF OUTER SPACE

The group arrived at a series of conculsions, some of them observations of a general character and some of them specific recommendations. Those conclusions will first be presented, after which the discussion on them will be summarized.

CONCLUSIONS

(1) The measures that the international community may at any given time adopt for the regulation of activities in space in the interest of international peace and security need to be considered, and from time to time reevaluated, in the light of measures taken to control armaments in general and progressively to effectuate disarmament.

(2) Those measures need also to be considered and from time to time reevaluated, in the light of ongoing developments in science and technology.

(3) The interest of international peace and security would not be served by a total prohibition of military activities in space.

(4) The use of reconnaissance and observation satellites — for photography, electronic monitoring, infrared sensing, or other modes

of reconnaissance and observation — should continue to be recognized as permissible and indeed constructive, whether the use is for civilian or military purposes.

(5) Similarly, the use of satellites for communications, navigation, geodesy, and other practical applications of space technology should continue to be recognized as permissible and constructive, whether the use is for civilian or military purposes.

(6) The use of manned or unmanned spacecraft to inspect satellites in space should be recognized as permissible.

(7) The present internationally agreed prohibition on the stationing of weapons of mass destruction in orbit, on celestial bodies or elsewhere in space should be extended to include *all* weapons.

(8) There should be an internationally agreed prohibition on any activities, including testing, that interfere with, impair the functioning of, damage, or destroy satellites in space, regardless of their nationality.*

(9) The right of a state to destroy in space its own satellite by means carried on board that satellite should be recognized subject to two conditions:

(a) that the action be undertaken only in circumstances such that it will not interfere with, impair the functioning of, damage, or destroy another satellite in space, regardless of the nationality of the latter* and

(b) that advance notice be given internationally by any state undertaking such action.

(10) The right of a state to retrieve its own satellite in space — including the return to earth of such a satellite — should be specifically recognized.

(11) The obligations of the 1967 Outer Space Treaty** should be continued in force and should be expanded as indicated in points (7) through (10) above.

* Two members of the group dissent in part from this conclusion for reasons outlined in the discussion below.

**Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (1967)

DISCUSSION

Framework of Analysis

As discussion developed, the group evolved a framework of analysis as follows:

(1) Recommendations likely to be useful would be limited in applicability to the uses of space in peacetime. Thus our

recommendations are not designed to deal with, and have no relevance to, a situation characterized by general hostilities. Moreover, our recommendations do not change and indeed assume the continuing application of general rules of international law, including those relating to individual and collective self-defense as reflected in Article 51 of the U.N. Charter.

(2) In our discussions we attempted to employ objective criteria — and to avoid subjective, state-of-mind concepts such as "peaceful" or "aggressive" — in order to state distinctions that would be relatively dependable in practice and less likely to be subject to disagreement on their meaning and application.

(3) Given the present state of arms control arrangements — themselves based on the concept of stability of mutual deterrence — we concluded that decisions on outer space activities, as they relate to the maintenance of international peace and security, should similarly promote this stability and ought not to undermine it. It follows that decisions on control of outer space activities will need reexamination as new developments occur in arms control and disarmament.

(4) The nature of space technology is such that the span of time between a conjectured use of space and the concrete reality of such use may be relatively short. For that reason measures for the regulation of activities in space need to be considered, and from time to time reevaluated, in the light of ongoing developments in technology. For that same reason the group confined its considerations to uses conceivable from the perspective of present technological knowledge.

(5) The U.S. government's decision to have separate military and civilian space programs has been and remains valuable from the political point of view. Having a separate civilian program has facilitated international cooperation in space activities. At the same time the group recognized that a distinction between civilian and military activities is not useful as a means of deciding which uses of space ought to be permitted or, indeed, which uses of space tend to promote a regime of peace.

(6) At the present time, the interest of international peace and security would not be served by a total prohibition of military activities in space. Some uses definitely military in character — such as satellite observation techniques recognized as "national means of verification" to monitor the SALT I agreements — are clearly desirable. It was noted that the present Outer Space Treaty does not include a ban on military activities in space.

Reconnaissance, Communications and Navigation Satellites

Reconnaissance and observation satellites — for photography, electronic monitoring, and thermal and near-infrared sensing — should

continue to be recognized as permissible and indeed constructive, whether they be employed for civilian or military purposes. In this area we noted many present and potential uses likely to promote international peace and security and to benefit social and economic development in a number of countries. Satellites with photographic capabilities currently monitor near- and long-term troop and weapons deployment, assist in geodesy and map drawing and provide the capability for long-term weather prediction. Near-infrared satellites assist the location and measurement of earth resources and the measurement of crop damage from migratory pests. Thermal sensing satellites now form the basis of early warning missile defense systems. Electronic monitoring satellites monitor many types of communications on earth as well as between earth and satellites, and between satellites, and collect data on radiation, radar, etc.

Similarly, the use of satellites for communications and for navigation should continue to be recognized as permissible and constructive. Current or presently planned navigation satellites assist in the guidance and traffic control of both civilian and military ships and aircraft. Communications relay satellites provide the capability for telephonic communications and live telecasts around the globe as well as for direct television transmissions to individual receivers.

All of these activities are sometimes military in nature. However, the group believes that a prohibition of such military activities is neither feasible nor desirable. It was noted that most uses of space for these purposes come about because space-related capabilities are either (1) unique or (2) cost-effective as compared with their earthbound counterparts. There is no reason to believe that a ban on activities for which earth counterparts exist would act to promote peace. As for that small category of uses which might properly be termed unique, the group concluded that such uses are desirable as promoting stability.

In the economic and social area the long-term value inherent in the development of remote sensing and communications capabilities was frequently cited. The group discussed the current international problems associated with earth-resource-sensing satellites such as ERTS/LANDSAT and direct broadcast satellites such as ATS-6. It concluded that these problems can and will be dealt with in a manner consistent with the maintenance of international peace and security.

Space Processing and Waste Disposal

The group discussed briefly the questions of "space processing," manufacturing, and data processing activities which may be undertaken in space, and the disposal in space of terrestrial wastes. In spite of the obvious advantages to certain of these activities inherent in the space environment — a natural vacuum, weightlessness, vast spaces — questions obviously exist about the cost-effectiveness of such activities. However, there is no evidence that any such activities that may be

carried out in the foreseeable future will have a destabilizing effect. For that reason the group concluded that there is no occasion at this time to undertake international regulation in this area.

Stationing of Weapons in Outer Space

The drafters of the 1967 Outer Space Treaty thought it desirable to exclude space as a launching platform for weapons of mass destruction. The stationing of such weapons in space is uneconomic and would be detectable if undertaken on a scale that would be significant.

In recognition of the desirability of emphasizing peaceful cooperation in space and in order to avoid the conversion of space into another arena of military rivalry, the members of the group consider that the prohibition on weapons of mass destruction should now be broadened to include all weapons.

The group is aware that a problem exists regarding the definition of "weapons." For example, there would need to be excluded from any prohibition the means carried on board satellites for destruction in the event of malfunction. Similarly, the propulsion and other systems aboard spacecraft have a potential for causing destruction or interference through unintentional explosion, high radiation, etc., and this fact contributes to the definitional difficulty. Assuming that such definitional problems can be surmounted, a generalized ban on weapons in space would be a logical and desirable advance in the quest for international peace and security.

One member of the group considered that it would be inadvisable to adopt new international obligations concerning space activities through the medium of opening up and amending the Outer Space Treaty. He thought, in addition, that a ban on all weapons in space would not have significant value.

Satellite Interception

The major space-related problem that should be of present international concern is the potential advent of physical and electromagnetic means of intercepting and interfering with objects in orbit. It appears that one or more of the superpowers is, or soon will be, testing satellites the purpose of which is to interfere with, impair the functioning of, damage, or destroy other satellites in space. The group also noted that the superpowers may be engaged in the development of comparable earth-based capabilities.

It is our unanimous view that such activities are fundamentally destabilizing and call for international action. Our concern stems from the fact that the development of capabilities by which one nation can interfere with or destroy the satellites of another in space could open up a new arena for the arms race and could lead to hostilities that might

spread and escalate. The fact that such capabilities are in a very early stage of development presents an opportunity to adopt a verifiable ban on the activities they would make feasible.

Prompt action should therefore be taken to secure an internationally agreed prohibition on any activities — whether earth-based or undertaken in space — including testing, that interfere with, impair the functioning of, damage, or destroy satellites in space.

This recommendation is designed essentially to prevent the development of capabilities for harming the satellites of another country. In order to do this, it is necessary to restrict the activities of a state with respect to its own satellites. However, such restrictions should not preclude a state from exercising the function of electronic control of its own satellites.

Two members of the group dissent in part from the recommendation, considering that a state should not be subject to restrictions regarding actions that it might take in space with respect to its own satellites. One of these members believes that a state should be unfettered in its research, development and testing of techniques in this area. The other believes that a prohibition on interference by a nation with its own satellites, including impairment of the functioning of its own satellites, infringes its sovereign rights.

The members of the group distinguished from activity that should be prohibited the slight incidental interference with satellites of another nation that may result from a satellite designed to inspect other objects in orbit. The use of manned or unmanned spacecraft to inspect other satellites or objects in orbit should be recognized as permissible.

One means of damaging or destroying other satellites in space may be by means of the fragmentation that results from the explosion of an object in space. The testing of such explosive-type devices would be prohibited under the rule suggested above. The group recognizes, however, the right of a state to destroy in space its own satellite by means carried on board that satellite. The question therefore arises how to devise a method by which to distinguish the permissible destruction of a satellite by the nation of its registry from the prohibited testing of a satellite-interception device. The group believes that permissible destruction may be successfully limited to its proper scope if (1) undertaken only in circumstances such that it will not interfere with, impair the functioning of, damage, or destroy another satellite in space, regardless of the nationality of the latter satellite, and (2) advance notice is given internationally by any state before it undertakes permissible destruction of a satellite.

The members of the group who dissent in part from the prohibition on interference dissent also from this recommendation insofar as it prohibits a state from taking actions in space, with respect to its own satellites, having no adverse effects on the satellites of other nations. In addition, one other member of the group considers that the phrase "on

board that satellite" contained in point (9) is too restrictive of a state's sovereign right to exercise jurisdiction and control over its own satellites.

The members of the group recognize that, if one state should violate newly-assumed obligations not to interfere with, impair the functioning of, damage, or destroy satellites in space, then other states bound by the same obligation would have the option to decide whether they were relieved of corresponding obligations. The group is aware that creation of a central international decision-making body to deal with violations lies a considerable distance in the future.

Finally, all members of the group agreed that the right of a state to retrieve its own satellite in space and to return such satellite to earth should be specifically recognized.

WEAPONS LIMITATION IN THE MIDDLE EAST

THE POLITICAL CONTEXT

The group examined, at first, the international and regional political environment within which a workable approach to arms control in the Middle East must be conceived. It reviewed within this context the possibility of reducing the volume and sophistication of arms flowing into the Middle East, and it included, in regard to the Arab-Israeli area, such concepts as the separation of forces, the creation and expansion of demilitarized zones, and the thinning out and limiting of forces along the front lines, all of which were used to good advantage in reaching the Sinai and Golan disengagement agreements in 1974 and 1975. There was general agreement that the primary obstacles to arms control in the area were to be found in the motivations of sellers and buyers: progress in arms control among the Arab states and Israel could be expected only by first ameliorating strategic political-military rivalry between the superpowers in the Middle East and economic rivalry among the Western powers, and by helping to dispel mutual suspicions among the regional powers and to strengthen the incentives to resort to political instead of military measures in resolving disputes.

The actions of the superpowers, the group agreed, were motivated by state interests, although the members failed to reach a consensus on the precise definition and identification, especially with respect to the Soviet Union, of those interests and how they are manifested in the Middle East. Points of view ranged from the belief that the Soviet Union might on balance favor a valid settlement over hazardous alternatives to a belief that it actively sought hegemony in the area. Insofar as the United States was concerned, however, the participants shared the view that the recycling of petrodollars, continuing access to oil, the concomitant question of sea control, and the survival and security of Israel were primary considerations. The last point underlined similar U.S. and Soviet objectives, i.e., the need to demonstrate the extent and steadfastness of support the protégés of each might expect. The chances for an arms control agreement among the Western powers was viewed as worth striving for, and indeed the minimalist position in the group accepted this as the only hopeful prospect in the near future.

Although no exact definition of stability emerged, it was generally held that a stable system rested on durable relationships, predictability of political behavior, and acquiesence in agreed rules of the game, but not necessarily on the preservation of the status quo. The participants generally held that the promoters of arms control in the Middle East should seek as their goal increased stability. Stability, it was further agreed, could be achieved through developing either a preponderance or balance of power in a particular subregion.

Most members of the group subscribed to the view that political progress in coping with the Arab-Israeli dispute was a prerequisite to workable arms limitations agreements, although a few thought that arms control might be a valid — if no more than tacit — instrumentality for promoting the negotiating process. A number of participants, while conceding that political progress was indispensable in the Arab-Israeli zone, noted that arms supply as a practical matter is interwoven with the negotiating process and that we face an anomaly, since the United States might well have to provide more, rather than fewer arms, and to even more countries than now receive our hardware, in order to ensure continuing momentum in that process. Others conceded this point, especially in the context of developing deterrents to hostilities and providing reliable and effective early warning, surveillance, and verification capabilities under the national control of the parties.

There was also general concurrence in the group that arms control efforts in the Middle East should seek not only to limit quantities and types of weapons systems but also to create demilitarized and/or limited-force zones and to adopt other confidence-building measures such as prior notification of maneuvers and joint settlement of secondary disputes. Several such measures have already been used successfully in the Sinai and Golan Heights disengagement agreements

and considerable refinement of other techniques has been realized in the context of other weapons limitation negotiations such as mutual and balanced force reduction talks (MBFR). The group also perceived a grown need for creative discourse on the question of Middle East arms control flowing from the mounting concern in Congress over the issue, and to the opportunities for the control of U.S. arms sales afforded by the new Congressional budgetary system. Congress has also recently strengthened the charter of the Arms Control and Disarmament Agency (ACDA) in the arms transfer decision-making process. The time has arrived for new ideas which can assist ACDA and other agencies to weigh the risks in arms sales and to contribute to a balanced review of security assistance.

THE ARAB-ISRAELI ZONE

Arms control, it was generally held, without at least the tacit agreement of the parties to the Arab-Israeli conflict would not work, whether in the context of a comprehensive settlement or as the result of one. The goal of arms limitation, it was further felt, should be stability in Arab-Israeli strategic relations. A comprehensive settlement, which by definition would remove political, territorial and other grievances, would erase the incentive to military options. It should then become possible to build an arms supply policy based on the concepts of defensive and early warning capabilities and damage limitation in the event of renewed hostilities. There was some disagreement on particulars. Wishing to avoid the difficulties, however, of trying to define offensive versus defensive weapons, most participants believed that selectivity in the types of arms made available to the parties might provide a feasible means of enhancing defensive, as against offensive, capabilities.

There was less agreement on the opportunities for progress in arms control before a settlement, and the forms such control might take. One set of suggestions pointed to a U.S.-Soviet understanding to limit changes in the status quo, to minimize the chances for another war, or to minimize the impact if one nevertheless occurred. These suggestions included U.S.-Soviet agreement:

— to limit the prepositioning of supplies in the potentially belligerent states;
— to limit the stocks of spare parts made available to their protégés;
— to forego major resupply efforts if war is renewed;
— to agree in advance to seek a rapid ceasefire;
— to share information on the possibility of war breaking out.

A number of participants doubted the Soviet Union's readiness to come to such an agreement, citing its record in past Arab-Israeli wars and its failure to respond to earlier U.S. initiatives of this type. Many

participants argued that the Soviet Union, and perhaps the United States as well, might find it impermissible to surrender major levers over its regional protégés. Indeed, many believed that the United States and the Soviet Union could agree only on avoidance of the most horrendous outcome of a Middle East war: a superpower nuclear confrontation.

Another suggestion involved an attempt to gain prior agreement with the Soviet Union that neither we nor they would intervene militarily to aid a protégé in danger of being defeated in a new war. Others in the group felt, however, that this would be impossible to achieve, inasmuch as Israel's military capabilities made it doubtful that in the foreseeable future it would need direct U.S. intervention. The Soviet Union was seen to be the only side expected to surrender an option. The U.S.-Soviet tradeoff in this proposal was thus felt to be too asymmetric for realization.

In view of these conceptual and practical difficulties, the group sought other avenues of inquiry to advance the concept of weapons limitations by focusing the discussion on possible modes of weapons limitations in the context of a West Bank settlement. It was suggested that a withdrawal from the West Bank palatable to Israel would require an assurance against surprise attack and terrorist harassment from the returned territory. The group generally endorsed the judgment that demilitarization of the West Bank, including a ban on the presence of heavy artillery, armour, military aircraft and the infrastructure to support these elements, would be necessary. On the other hand, it was agreed that whatever Arab government controlled that area would necessarily require sufficiently strong and mobile forces to maintain internal security and stop terrorist action by individuals or extra-state elements, that in effect the government would have to be credibly and effectively in sovereign control of the territory.

THE PERSIAN GULF ZONE

The question of arms supplies to the Persian Gulf area, most felt, was bedeviled by the growing linkages between arms sales to Iran, on the one hand, and sales to potential participants in the Arab-Israeli conflict on the other, as sales of particular weapons to one whetted the appetites of others for the same weapons. Limitation of arms exports to Iran, some contended, was made even more difficult because of the very real possibility that the United States might find itself at some future date facing the necessity of a direct military response to a Soviet threat to oil supplies. The lack of base rights and access routes in the Middle East generally, according to this view, pointed up the necessity for an ally in the area possessing the necessary infrastructure to accept U.S. reinforcements. Others took a contrary position, arguing that the Soviet Union recognized the energy-vulnerability of the Western allies in the coming decade as too great to allow for any direct Soviet

interference with the sources or routes of oil supply, and that the security planners in Moscow have therefore probably ruled out resort to such an option.

The group perceived a number of geopolitical factors arguing against any drastic revision in current policies: Iran's oil, which is unlikely to be withheld from market in an embargo, its long border and past troubled relations with the Soviet Union, and the impending final withdrawal of Britain and France from their last footholds in the area at Masirah and Jibuti. Regional security cooperation between Iran and Saudi Arabia was generally conceded to be a non-starter.

The potential dangers associated with a change of regime in Iran also concerned many participants. It was thought, however, that even if the regime were to change, the geopolitical constraints of oil markets, the Soviet border, and Iranian-Russian relations would continue to influence future policy. Iran's essential posture as a political entity, according to the prevailing estimate, would remain opposed to Soviet dominance and would include an inclination to cooperate with the more distant superpower.

Despite these factors, however, the group concluded that some slowdown in the timing and pace of deliveries to Iran would be salutory and desirable. This was based on the problems associated with the multiplying numbers of U.S. personnel and dependents in the country, the advisability of delaying the transfer of new weapons systems until after the removal of "the bugs," the necessity for the Iranian armed forces to assimilate the sophisticated weapons already provided, and the desirability of reducing regional competition for sophisticated weapons.

This focused the group's attention on the process of formulating U.S. arms transfer policy. The Executive Branch has tended to move in one direction and the Congress in another. Most participats maintained that the main concern of Congress appeared to be not the level of arms sales *per se*, but rather the lack of appropriate and timely procedures for Congressional review of and participation in decisions to sell arms. The Iranian experience underscores this need. It is essential — constitutionally and substantively — that policy options be fully debated and discussed between the two Branches. This is the only way, it was felt, that a consensus might be reached to achieve rational policy in a controversial and critical area of the world.

BUYER-SUPPLIER MOTIVATIONS

Having discussed the background of arms sales to the Persian Gulf and Arab-Israeli areas, the group turned its attention to the complex of motivations of arms buyers and sellers, with special attention to the United States, for clues on how to proceed toward an arms control policy.

The group agreed that, despite charges to the contrary, the United States does indeed have arms transfer policies, which vary from country to country in the Middle East. Though perhaps flawed in the execution, these policies are nevertheless based in each case on logic or predicated on defensible assumptions and related to reasonable goals. Thus arms sales to Iran are based on the Guam Doctrine of building up local powers which are expected to help keep the peace in their regions with U.S. arms, but without the direct participation of U.S. fighting men. Sales to Israel have been used to meet a basic commitment to that country's security and survival in a situation of immediate and present threat and as a means of keeping alive the slow-motion Arab-Israeli political negotiation process. Apart from the merit, or lack thereof, of the case made by the U.S. government for its arms sales policies, the group perceived that public and Congressional confidence was adversely affected by the way in which policy was formulated and presented. It was held that the U.S. policy for arms sales to Israel, for example, was well-established and articulated, whereas this was not the case in sales to the Gulf states. What the government needs to improve is the mode of explanation and justification of arms sales in terms of the recipient and of the quantities made available. Lacking alternative sources of influence, the Soviet Union was expected to continue to depend on arms transfers as a primary foreign-policy tool.

Complicating this situation in which both the United States and the Soviet Union have clear and defensible, if arguable, reasons to continue selling arms abroad is the asymmetry in weapons systems available to recipient countries from their respective defense industries. Rarely does it happen, especially in the upper reaches of military technology, that comparable systems are available for sale to one superpower's protégés in the face of real or imagined threats arising from the acquisition of a certain system by a regional rival. For example, the U.S. motives in providing F-4 Phantom aircraft to Israel appeared to be a desire to make available a defensive system in compensation for the French cut-off of the Mirage. The Soviet Union, lacking an aircraft comparable to the F-4, responded with a massive infusion of sophisticated air defense missiles and ultimately Soviet troops to man and maintain them, probably encouraged by the Israeli use of F-4s in deep penetration bombing raids into Egypt. The provision of FROGs and SCUDs to the Arabs probably resulted from a Soviet-Arab attempt to offset the threat to population centers posed by the Israel Air Force, but it led to Israel's acquisition of the LANCE surface-to-surface missile and demands for the even more formidable PERSHING. It can be argued that infusion of large numbers of Soviet air-defense troops probably raised Egyptian-Soviet personnel tensions and contributed to the expulsion of the Soviet advisors and technicians from Egypt in 1972. However, this does not invalidate the main point, that introduction of sophisticated and asymmetrical systems in a game of leapfrog often leads to

unanticipated, unpredictable, and unmanageable reactions which become troublesome for the sellers and potentially dangerous to the recipients.

This point led the group to examine the experience the United States has had with major Middle East recipients to determine which elements of their respective programs are shared and which are unique and to seek lessons for the future.

Iran

- There appears to have been a lack of adequate control and direction within the Executive Branch in the implementation of what some felt otherwise might have been a reasonable and defensible program. This was complicated by a complete lack of effort by the Administration to explain its policy to the Congress and to afford Capitol Hill an opportunity for review and assent to the program.
- This program underwent an unprecedented growth before the rapid increase in oil revenues after 1973.
- Inadequate control and discussion of the program led to the United States being locked into a situation characterized by an apparently unanticipated growth of a U.S. presence which produces interpersonal tensions between Americans and Iranians. Moreover, it has created a large body of potential hostages to unforeseen crises.
- Iranian desires for co-production have raised strategic and economic issues which have not been fully disclosed or evaluated.

Saudi Arabia

- A major concern is the issue of end use of U.S. weaponry and the possibility of its re-transfer to other Arab states in more direct confrontation with Israel.
- There is an intra-Arab aspect, often forgotten, to the Saudi program in that the Kingdom has real fears of Soviet-supplied Iraq and the People's Democratic Republic of Yemen and that its original decision in the early 1960s to begin to build a modern military force came about in reaction to Egyptian bombing raids against Saudi villages in connection with Egypt's intervention in the Yemeni civil war.
- Also with respect to the Arab dimension, the Saudi program carries the seeds of an arms race among the peripheral states of the Arabian Peninsula.

— The programs in both Saudi Arabia and Iran clearly underline the linkages between oil and arms and the effects of being locked into large arms-sales programs: we, or our allies, need their oil, they want our arms, they have the money to pay, and we need to balance our external payments, because of the deficits arising from the steep rises in oil prices; radical deceleration in this process is difficult at best.
— The bulk of the Saudi program consists of constructing a basic infrastructure including cantonment areas, family housing, hospitals, mosques and the like, as well as ports, roads and airfields. Most of these projects have military and civilian utility. The actual weaponry, so far, has been modest and reasonable.
— In carrying out its military and civilian development programs, Saudi Arabia is constructing a network of high value targets which should make it reluctant to risk their destruction as an outcome of ill-advised military adventurism.

Israel

— The Israeli program must be viewed in the context of the ongoing evolution of Soviet arms supply relationships with neighboring states and the political negotiating process, in which the United States has provided arms as an inducement to concessions on Israel's part or withheld them as a threat.
— Also involved in the foregoing process is a U.S.-Israeli dialogue on current and future military threat estimates, which underlines the fact that U.S. arms in Israel's case are provided in response to an immediate problem and might be used in the near term.
— Since 1973 there has been an inescapable link between U.S. security assistance relationship with Israel and oil: a program perceived as too generous by the Arabs might trigger repercussions in oil markets, almost certainly in the event of another Arab-Israeli war.
— The costs of the Israeli programs have escalated dramatically; moreover, security assistance today in contrast to the past is mostly in the form of grants.
— An increasingly troublesome aspect of the Israeli program is that Israel is requesting items on the cutting edge of technology, whether in complete systems, components or basic information and know-how; among Middle East countries it is uniquely capable of using, exploiting, and building on that technology to expand its domestic arms industry. This could result in a loss of U.S. leverage to the extent that Israel becomes self-reliant in defense production. It could also lead to increasing Israeli arms exports, often in direct competition with

the United States and in markets, such as Latin America, which raise difficulties for U.S. policy.

Jordan

— Jordan is the only Arab state in direct confrontation with Israel that has depended primarily on the United States for its military needs; thus, the possibility of Jordan using U.S. arms in a future war with Israel must not be discounted.

Egypt

— Although very little in the way of military sales has been made available to Egypt by the United States, the group expects that we shall face in the very near future the necessity of responding to an Egyptian request for a significant arms sales program.
— The group agreed that the handling of this request will be of the essence: it should be done slowly, deliberately, completely in the open, with full dialogue between the Executive Branch, on the one hand, and Congress and the public on the other.
— Lessons learned, especially in the Iranian and Saudi cases, should be kept fully in mind and applied.

THE NUCLEAR QUESTION

The group noted that nuclear arms are a matter of grave concern, especially with regard to Israel and Iran. However, because of the complexity of the problem, the time available, and the fact that other panels at this conference are addressing the issue, the group did not examine systematically the problem of nuclear arms.

CONCLUSIONS AND RECOMMENDATIONS

There are grave dangers associated with arms accumulation in the Middle East. Most of these problems would be eradicated by a political settlement, and the greatest exertions should be made in the pursuit of that goal. The group also concluded that there are reasonable and defensible rationales behind U.S. arms-transfer policies in the Middle East, however much one might find errors and anomalies in implementation. Many judged that arbitrary cut-offs, reversals, and limits on arms-supply programs do not answer the problem. Rather the Executive must, in developing such programs, pay greater analytic attention than has been apparent in the past to the benefits and the risks of particular lines of transfer policy and share much more detailed information with the Congress than it has heretofore and seek its continuing cooperation.

Stronger efforts to organize the principal suppliers are needed. The United States should take the lead certainly with its allies, but also with the Soviet Union to explore steps, however limited, which may be taken to put a lid on at least some aspects of the Middle East arms races. The group had sufficient hope for good results in such matters as cutting back current and limiting future capabilities on the part of the recipients for counter-value attacks: no more surface-to-surface missiles, for example. Limits on weapons usable by terrorists, such as the REDEYE and STRELLA type of weapons might be a further feasible step. The possibility might also be explored of imposing restrictions on recipients whose past behavior suggests future irresponsibility.

FARMERS HOUSE

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All publications are available free of charge from The Stanley Foundation.

Congressional Performance On Key Arms Control Issues

An Address by

DICK CLARK

U.S. Senator from Iowa

I am pleased to have an opportunity to discuss with you some of the most pressing problems of arms control as seen from a Congressional point of view.

No group in America, that I am aware of, has done more over the years than The Stanley Foundation to focus attention and concern on this issue — which is really the issue of human survival. I am particularly proud that The Stanley Foundation is located in my home state — the state I represent in the Congress. They have done so very much valuable work in the area of international order and world peace that the whole nation owes them a great debt in appreciation.

My task tonight is to comment on the Congressional performance on three key arms control issues this year: strategic arms, conventional arms sales and nuclear proliferation.

But before proceeding with my analysis of each of these issues, allow me to make the point that the U.S. position on many key matters of arms control and proliferation, both in the Executive Branch and Congress, is full of inconsistencies.

- Our official policy is to seek a comprehensive test ban, but the United States has never tabled a comprehensive test ban proposal in any international forum.

• We profess support of the Non-Proliferation Treaty (NPT) and the International Atomic Energy Agency, yet we scarcely quibble when South Africa refuses to join the NPT in connection with U.S. support of its nuclear programs and refuses to have international energy safeguards applied to its pilot enrichment facility.

• We embrace the need to control proliferation of nuclear explosive devices, while both we and the Soviet Union accept peaceful nuclear explosions, which most experts believe cannot be distinguished from nuclear weapons tests.

• We insist on the need for reducing the numbers of nuclear warheads, and negotiate with the Soviet Union a MIRV (multiple independently targetable reentry vehicle) understanding which is above the current levels for both nations.

STRATEGIC ARMS CONTROL: SALT

This is an area in which the Congressional input has been virtually nil. The reason is not hard to identify. Throughout most of this Congress, the strategic arms control debate has been dominated by the expectation that the administration would press ahead in the implementation of the November 1974 Vladivostok agreement — to convert this understanding "in principle" into a concrete strategic arms treaty.

The urgency of this is apparent. In October of 1977 — next year — the interim Strategic Arms Limitation Talks (SALT) agreement signed in Moscow in 1972 will expire. The interim agreement was never viewed as wholly satisfactory, for it did little more than provide for a five-year restriction on strategic offensive missile launcher deployments — including land-based ICBM and SLBM launchers — pending negotiation as the Foreign Relations Committee report put it, "of more complete limitations on strategic offensive arms."

Nonetheless, deficient as the interim agreement was, it was integrally linked with the Anti-Ballistic Missile (ABM) Treaty, which in my judgment was the most important arms control step ever taken. As five years of negotiations demonstrate, struggling to control just strategic offensive arsenals alone has proved almost insurmountable; imagine what it would be like if we had to include an ABM capability in the equation.

In recognition of the urgency of further, detailed negotiations, the administration kept assuring Congress that there was progress in elaborating on the Vladivostok agreements. Twice Secretary of State Henry Kissinger traveled to Moscow, hoping for a breakthrough. Both times he failed, probably as much because of the climate in Washington as in Moscow.

Again, not wanting to intrude on the details of Kissinger's handling of the negotiations (and perhaps in the tacit awareness that he had

enough troubles on SALT, without us being on his back), we in Congress were extremely reluctant about getting involved. In fact, the two major Congressional initiatives were supportive. Senator Cranston introduced S. Con. Res. 69, which greeted the Vladivostok negotiations, urging only that the Secretary subsequently aim for twenty percent overall reduction.

In March, Senators Kennedy, Javits and Humphrey introduced — I was a co-sponsor — the other major Congressional effort to spur the Vladivostok talks. The resolution was primarily an effort to show — at a time when the negotiations were evidently going slowly — strong bipartisan Senate support for a constructive position on SALT. The resolution, however, tried to go further. We urged the President to seek agreement with the Soviets to ban flight testing and deployment of air-launched cruise missiles with a range in excess of 2,500 kilometers, and the flight testing or deployment by either country of land- or sea-launched cruise missiles having ranges in excess of 600 kilometers. Finally, we proposed a moratorium on flight testing all long-range cruise missiles until we could negotiate further.

This proposal was not greeted favorably by the administration, despite its clearly supportive intent. U.S. Arms Control and Disarmament Agency Director Fred Ikle took the opportunity of a press conference to criticize at lenght the 600km limit.

I am prepared to concede that it is extremely difficult for Congress, lacking the expertise available to the administration, to formulate technical negotiating positions. Congress is better prepared to review the results of Executive Branch efforts. In this case, I would fault the administration for not providing the Congress with a strategic arms policy that it can review.

If the administration gets serious about a new agreement, I hope care will be taken to avoid a last-minute negotiating crunch — such as was the case with the 1972 agreement. The ensuing disputes over so-called loopholes and violations have served to obscure the gains of SALT I and placed strategic arms limitation in jeopardy.

CONVENTIONAL ARMS TRANSFERS

The final days of this Congress were marked by a sudden concern with the sales of U.S. weapons abroad. The distress which I, and many of my colleagues, had regularly expressed over the role of the United States as the world's number one arms salesman was suddenly crystalized by proposals to sell a further $6.1 billion arms package to eleven countries — mostly in the Middle East.

As I said in discussing this issue on the floor, the Congressional handling of this package has not been particularly impressive. We started late and accomplished little.

The Congressional dilemma comes into perspective clearly when you look at the growth of the arms trade. An estimated $20 billion worth of conventional arms was sold, or in a few cases, given away last year. And the United States led the way. Since 1967, foreign military sales and military assistance grants alone climbed from $1 billion to a 1975 level of over $10 billion. That figure dropped just a bit to $8.6 billion in 1976.

In recent weeks, however, it has become clear that the trend is again towards new record levels. In the two months following the President's July signature on the Arms Export Control Act, the administration proposed sales totalling nearly $7 billion. It became evident why the administration had fought the $9 billion sales ceiling in the original version of the bill: they intend to sell substantially more than that $9 billion this year.

The $6.1 billion sales proposal package which came up just before adjournment dramatically emphasized the problems in Congressional monitoring of the traffic:

- It was clear that the administration had put Congress into the position of having to act on proposed sales before it had provided the policy framework within which the judgment should really be taken.
- It was clear that the current machinery, in which Congress is brought into the act only after the sales are in effect promised by the Pentagon, places an intolerable burden on the Congress. This ate in the game Congress can reject sales only at the risk of creating a possibly serious diplomatic incident.
- It was clear that the arms impact statements to the Congress, appended to the requests for authorization or appropriation for certain programs, were lamentably inadequate. According to law they are supposed to be complete, analytical, and deal with the impact of the program on arms control policy and negotiations. After reviewing eleven of the most recent statements attached to letters of offer to sell weapons, the Foreign Relations Committee sent a letter to Secretary of Defense Donald Rumsfeld stating simply: "The statements provided do not comply with the law and are unacceptable." We asked resubmission in each of the cases under review.

Under the circumstances, I think it's fair to say that the $6.1 billion proposed package startled and shocked many members of the Congress — particularly because there was a strong hint that the Iranians would be back for more F-16s (they wanted 300; got 160) and intended to purchase 250 of the F-18s, a plane not yet even test flown.

Under the circumstances, I could readily understand Senator Nelson's reaction; he simply introduced resolutions of disapproval for the entire lot. In practice the committee became persuaded that such a

blanket rejection would create too many diplomatic problems. In any case, I argued that the only way we could possibly be consistent with all that we'd been preaching on arms transfer policy during this Congress would be to reject — if only as a delaying measure — the Persian Gulf portion of the sale, on the grounds that this was the clearest example where policy guidance — long promised by the administration — was lacking.

A majority of my colleagues felt that even this sort of general, area-wide decision would unjustifiably irritate our Persian Gulf friends. But the record of the debate will show that there is an enormous concern among members of the committee over these arms sales. One after another, Senators Humphrey, Church, McGovern, and Javits rose to express their profound concern. We had to yield to pressures of diplomacy in ultimately not blocking the sales in this package, but the Foreign Relations Committee is already on record that it will not approve any more sales to the Persian Gulf until the President lays out a coherent policy framework.

What do we mean with our insistence on a policy framework?

- We need long-term projections of the political relations between the recipient nation and its neighbors, i.e., the nature of the governments, their intentions, likely evolution, and what are the prospects these weapons could be used against us — or our allies?

- We need information on which to evaluate the economic impact of proposed sales. As one committee witness put it, have no illusions, for these recipient countries it is always a "guns or butter issue."

- We need background to judge the social impact of the arms program. How will the emergence of an educated and sophisticated military elite impact on the social and political structure?

- We need a far better insight into the role private U.S. companies play in stimulating a demand.

- We could use further information regarding the rivalry between the U.S. military services, particularly the Air Force and Navy, in competing for sales.

- Finally, and this is enormously important, we need to know more about the "back-end" implementation aspects of arms sales. What is our involvement after the contract is signed — in procurement, finance, logistics, maintenance, training? For example, estimates are that when all the current projects with Iran get underway, there will be up to 60,000 Americans — technicians with families — in Iran. That's about the number of military personnel we had in Vietnam in mid-1965.

Senator Walter Mondale put the problem cogently in a recent speech on this subject: "Our entire effort to control the strategic arms race and to limit the potential for nuclear confrontation growing out of regional conflicts fought with conventional arms, could be completely undercut by the proliferation of nuclear weapons nations." There is, he went on, "an alarming danger that the number of nuclear powers will increase to the point that the possibility of nuclear war changes from whether to when."

Perhaps the most significant achievement of the Congress this year in this regard was an amendment to the Foreign Assistance Act of 1961. Senator Stuart Symington's amendment denies U.S. economic and military assistance to any nation importing reprocessing equipment, materials or technology, unless the importing nation agrees to apply international safeguards to all of its nuclear activities and to make a sincere effort to place any enrichment or reprocessing activities under multilateral auspices and management. This was good.

However, I think it is unfortunately indicative of our relationship with the Executive Branch that it offered no positive input, and fought the measure all the way — even to an appearance in the final conference between the two foreign relations committees. Every Executive Branch effort was directed toward gutting or killing the legislation. Ironically, when the amendment became law, the Executive Branch embraced it for use in discussions with Pakistan.

For the ultimate in lack of cooperation between the Executive and Congress in these matters, however, I'd like to share with you some of the experiences surrounding our effort to put this year's nuclear export control bill into law.

This bill, S. 1439, was intended to spell out a policy on nuclear weapons proliferation for the United States, and to impose immediate restrictions on U.S. nuclear exports as well as establish tougher safeguard criteria in negotiations with other suppliers. Surely, it seems to me, though one could quibble with details or approaches, the overall objectives of this legislation merited the highest degree of cooperation by the Executive. Instead, all we got was obstructionism.

The bill was introduced on April 15, 1975, and re-written extensively during the following thirteen months — with the Executive Branch resisting all the way. The bill was referred to the Committee on Foreign Relations and the Joint Committee on Atomic Energy. Both committees asked to hear from the Secretary of State on the bill. This was a logical request in that one of the prime objectives of the bill is to give the State Department the leading role in negotiating agreements for nuclear cooperation, reducing the authority of the Energy Research and Development Administration (ERDA), which tended to issue licenses more on technical than policy grounds. The Joint Committee

on Atomic Energy never heard the Secretary. He was not available to appear before the Foreign Relations Committee until after the committee had been forced, because of the legislative deadline, to act.

In the course of the consideration of the bill, Senator Pastore, the chairman of the Joint Committee on Atomic Energy, asked that the committee staffs meet with the Executive Branch and try to work out a positive compromise. However, the Executive Branch representatives came with specific instructions not to negotiate anything. When the committee had nearly finished work on the bill, the Executive Branch decided to take a belated look at non-proliferation policy, so they organized a study group. That group has now finished its deliberations; however, the Executive Branch has not provided this report to the Congress.

Clearly during most of the process of Congressional consideration of S. 1439, the Executive Branch did not desire to have a bill at all. Toward the end, the Executive Branch decided to try to work for a bill it could live with and presumably exploit during the campaign. As a result, ERDA sent a letter to the Joint Committee on August 13 requesting certain changes in the bill. Virtually all of those changes — suggested by the agency the bill was supposed to regulate — were incorporated in the bill as reported to the House. These changes would have destroyed the effect of the bill.

There were last minute efforts to reconcile differences between the Senate and the ERDA-influenced House version. They were doomed to failure, largely because of the prolonged intransigence of the Executive Branch.

S. 1439 was not a perfect bill. It could have been a significant achievement had the Executive Branch been willing to cooperate with the Congress in achieving a bill which would allow the United States to remain a reliable supplier while insisting upon solid and sensible controls to prevent the spread of nuclear weapons. Unfortunately, the Executive Branch was not willing to go that far.

I know that some of the Executive Branch officials who worked on S. 1439 are here tonight. I would like them to know that I did not raise these points to put us at loggerheads. Instead, I hope we can all see this as an example of how not to handle such a vital problem. Non-proliferation and other arms control matters have captured the attention of the American public. We must act — but we must act together.

CONCLUSION

There are a number of legislative issues to be faced in each of these categories in the new year.

In the area of strategic nuclear weapons, we must support every initiative to prevent the expiration of the interim SALT agreement. Were that agreement to lapse, the pressures for a new round of weapon construction would be enormous — there would be no stopping B-1, the MX missile; and the cruise missile would become a vast fourth force to be added to the triad.

Equally ominous, are the voices calling for an abrogation of the ABM Treaty if the interim SALT agreement expires.

But while I strongly support the thrust of the Vladivostok agreement, I have no illusion that any new accord, even if carefully negotiated to avoid verification loopholes, will really put a big dent in the arms race. A ceiling of 2,400 strategic ballistic missiles and bombers and a subceiling of 1,320 MIRVs is really not a painful constriction. The United States can still build to over 15,000 nuclear warheads; the Soviets will shortly equal this capability.

Therefore it is imperative that any new agreement arising from the Vladivostok accords incorporate the lowest negotiable ceilings in delivery vehicles and MIRVs — and not merely confirm the Vladivostok levels. At the same time we must strive for further constraints on technological advances by restricting replacement rates on weapons, or the numbers and kinds of flight tests.

In conventional arms transfer policy, Congress must take a new look at the oversight machinery. Provisions must be made for bringing Congress into the sales policy at a much earlier stage, to allow time for reflection, and rejection if necessary. Most of all, the Executive must provide us with a policy, a framework within which we are to judge its actions and intentions.

I might note here that in the closing days of the Congress, the administration — after a delay of a year — responded to a request by Senator John Culver and 102 other members of Congress, including myself, urging an international conference of major arms-producing nations to seek a rational approach to arms sales. The reply, from Secretary Kissinger, termed global arrangements "politically unfeasible" and regional controls "very difficult and perhaps impossible to negotiate." It argues that any progress at all would have to be achieved through "quiet diplomatic exchanges" rather than the "full glare of international publicity."

In nuclear proliferation, the most important thing is to stimulate international awareness of the dangers of the current trend. It took 30 years after Hiroshima for the number of nuclear weapon states to grow from one to six, or possibly seven, if you include Israel. But the way things are going, we will soon see many more nations acquire nuclear weapons. I would not pretend that the United States, and the Soviet Union and the other nations which possess nuclear weapons are wiser or more careful in their handling of nuclear weapons than others might be.

But they have at least worked out a fairly stable, if uneasy, relationship with one another. As nuclear weapons spread, the possibility of outbreak of war must necessarily spread. While I believe that the United States and the Soviet Union and other present nuclear powers must do a better job of controlling vertical proliferation — the constant building of new weaponry — I believe that nuclear war, if it comes, will result from horizontal proliferation — the spread of nuclear weapons among many nations — which appears imminent.

We should readdress the issue of a comprehensive ban on nuclear explosions. The Threshold Test Ban Treaty and Peaceful Nuclear Explosion Treaty, on which we have been asked to give advice and consent, do not appear to be a particularly impressive step in that direction. Some rumblings from the Soviets indicate that they are willing to discuss the issue of on-site inspection of a comprehensive ban. Every effort should be made to ferret out their intentions.

What strikes me, reflecting on what we've just covered, is the primary, the overwhelming, necessity of creating the will for arms control among both suppliers and recipients. Both must recognize that arms control is in no way the converse of national security. Arms controls, as much as weapons construction, must be recognized as the foundation of national security. Arms proliferation, nuclear or conventional, must be grasped as the path of insecurity and instability.

- To stem the strategic nuclear arms race, we must concentrate largely on the superpowers;
- To head off conventional arms races, we must convince suppliers and recipients of the dangers;
- To counter proliferation, we must create a climate in which the non-nuclear weapon states see clear national security advantages in avoidance of nuclear weapons.

This will not come about as the result of unilateral action or proposals by a small group of nations. It must ultimately be the result of efforts by the majority. But much as it ultimately requires international support, it is also my conviction that there is every reason for the United States to take the lead. The message can be simple: in a word, the arms race is destructive of our own security, and that of other nations. I suggest that we focus more energy on how to achieve arms control, rather than on excuses why we haven't yet achieved significant progress.

Why do we need an Arms Control and Disarmament Agency? Why not have the State Department, the Pentagon, and the Energy Research and Development Administration (ERDA) form an inter-agency committee (or ten inter-agency committees) to coordinate U.S. arms control policy.

I would summarize the answer with two arguments. We need a separate organization as a *catalyst* to keep sound arms control ideas moving, to nudge other agencies to seize opportunities when they arise. We must also have a separate organization as a *conscience*, a bureaucratically independent conscience, working for the long-term interest of controlling and reducing arms. The conscience thus ensures that short-term tactical concerns do not crowd the broader national, and indeed, international interests, in sound arms control.

After 50 years, we obtained ratification of the Geneva Protocol, which prohibits gas warfare. In the earlier decades, ratification was opposed by those who thought the Protocol was too restrictive. More recently the ratification, as interpreted by the Executive Branch, was

opposed by those who thought it was not restrictive enough. But at least there was a convergence of left and right to make it possible to secure ratification. Still it required carefully negotiated compromise between the concerns of the Senate Foreign Relations Committee and the Pentagon.

We got the Protocol to the Anti-Ballistic Missile (ABM) Treaty negotiated and ratified. Some people say this was unimportant, or even a sham, in that the United States has no intention of building a second ABM site in Washington, as permitted by the initial ABM Treaty of 1972. But imagine that you read in some column that there were indications the Soviets were building a second ABM site. I think that would be very disturbing. It makes sense to obtain limitations precisely when those limitations are easily agreed to by the main two adversaries.

ACDA also played a catalyst role in the ratification of the Biological Weapons Convention. That ratification was not entirely without risk. This was not only the first arms control agreement, but also the first disarmament agreement, which was not verifiable in the sense that we understand ratification.

Let me turn to another illustration of ACDA's role as catalyst. Many of you will recall the issue of mini-nukes — the small nuclear arms that would blur the distinction between nuclear and conventional arms because their effects in battle could not be distinguished from a conventional weapon, without special instrumentation. Throughout the 1960s and the early 1970s there were technocrats who argued that the United States should start building mini-nukes. But the majority view in Washington was that the 'firebreak' ought to be maintained, if not strengthened. ACDA took advantage of this, perhaps temporary, consensus and obtained an official U.S. government statement on the record to the effect that we would not erode the distinction or 'firebreak' between conventional and nuclear arms.

ACDA: A CONSCIENCE

Arms control can only thrive on truth. It cannot succeed with muddled thinking, half-truths, and the suppression of facts. The requirement of honesty and clarity of purpose may be greater for arms control than for certain other parts of foreign and national security policy because of:

1) the continuing interaction of conflict and cooperation between other nations and this country;
2) the long time span, measured in decades, during which arms control arrangements must remain viable;
3) the abstract nature of and almost total lack of real tests of validity of the rationale for arms control arrangements.

Hence, I believe ACDA's other role must be that of a bureaucratically independent conscience. For example, some time ago

when work first began on the SALT II negotiations, it was thought that a central objective would be the future vulnerability of the Minuteman force. This notion was reflected both in Congressional debates and in public discussions. Analysis soon showed, however, that given the build-up in the Soviet weapons programs, on the one hand, and the statistical and real physical uncertainties regarding vulnerability, on the other, it would not be possible to make an honest claim that any likely SALT II agreement would do something significant about the vulnerability of the Minuteman force. ACDA's analysis provided the clarification of this point, which was eventually accepted by all. Thus, because of our independence we were in a better position to focus on many other valid objectives of the SALT II negotiations, instead of pursuing a false objective.

A more recent example from SALT involved the 600-kilometer (370-mile) limit on cruise missiles and the question of its verifiability if tests above such limits were prohibited. (The 600 kilometer number figures in certain Soviet propositions regarding SALT II.) Last February some Senators proposed to draft constructive resolutions which would also contain the misconception that the 370-mile test limit on cruise missiles would make that range limit verifiable.

In order to maintain standards of truthfulness, we could not cover up the fact that this notion was in error. I realize that many people who closely identify themselves with arms control objectives and developments felt disappointed about the situation. But I ask myself one question: if we had tried to cover up, would we have risked a much bigger problem? I think so. For if this fact is not recognized, it could contaminate the SALT agreement and lead to an undermining of general public confidence which is so important. We have seen how the debate over SALT I about the question of violations had a corrosive effect. That debate has now subsided.

ACDA has also been involved with the question of economic benefits of peaceful nuclear explosives. This notion of economic benefits has been a threat to a comprehensive test ban, and even a threshold test ban, and has been harmful to non-proliferation, since being used as an argument to begin a weapons test program without admitting it.

We in ACDA had two independent analyses done regarding economic benefits. The studies showed that such benefits were indeed doubtful. This was a welcome finding with respect to arms control; however, some bureaucrats wanted to suppress this finding.

The uncertainty of the world-wide backlash effect of massive nuclear attack, especially the question of effects on the ozone layer, saw another cover-up attempt.

Another question of conscience enters into the debate on strategic doctrine. One or two years ago there was considerable discussion about

changes in the U.S. strategic doctrine. In all this strategic analysis the question of morality was scarcely raised. ACDA sought to introduce a broader perspective into the debate.

Too many people have lost the sense of proportion as to what is needed and what is morally justified to deter nuclear aggression. To have effective deterrence we need not guarantee to kill millions of innocent people, people who could never influence a decision we wish to deter. Rather, for fundamental morality we should not rig our forces to cause mass killings, totally unnecessary killings, in any nuclear war. If the war had been caused by accident, what would be the sense of such retaliation. We should never lock our forces into a posture making us the first to use nuclear weapons against cities.

NUCLEAR PROLIFERATION

Nuclear Proliferation is an area where both the catalyst role and the conscience role of ACDA come into play. The two combine to make ACDA a strong and effective advocate. The central problem is that nuclear technology can serve both destructive and peaceful ends, and, to the greatest extent possible, we have to separate these two. It is hardly surprising given this intermingling that our ways of dealing with the nuclear presence on earth has pulled us in two inconsistent directions over the last 20 years. We have tried by one means and then another to reconcile this dichotomy. Now, at last, over the past two years we have worked out a consistent policy on the export of reactors and nuclear fuels, on cooperation with other exporting countries, and on international safeguards.

Let me mention some specifics. The present administration fully recognizes, as have previous administrations, the importance of our alliance commitments in restraining the spread of the bomb. We have made special efforts to strengthen these alliance commitments: controls on our exports of dangerous nuclear materials and sensitive technology have been tightened; more efficient procedures for separating the exports that must be stopped from those that we want to permit have been developed; and more rigorous standards on agreements governing such exports, and agreements for cooperation have been established. ACDA is deeply involved in all of this. There has been set up in Washington a so-called backstopping committee dealing with these export questions in the area which was once the province of a single agency, the Atomic Energy Commission. ACDA now chairs this committee, which also includes the State Department and the Energy Research and Development Administration (ERDA).

To improve physical security, we have developed new protective devices at home, secured a new international comprehension of the risks, and improved cooperation with principal supplier nations. A set of guidelines has been agreed to that impose common standards on

nuclear exports. Of course, there is room for improvement. We want to go further.

ACDA, for the first time, is now involved in all these decisions on nuclear exports. ACDA has been successful in pushing for specific measures such as stopping the export of certain reprocessing plants or achieving the return of certain fuel. There has been criticism that these steps in the non-proliferation area fall far short of our ideal. We know full well that further efforts have to be made. However, we have made more progress in this area in the last two years than has been made in the last 20. ACDA, I would claim, has been the central advocate in this process.

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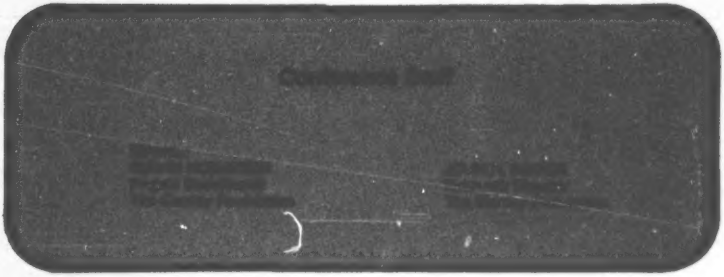

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